EFFECTIVENESS OF PACED BREATHING VERSUS SACRAL MASSAGE ON LABOUR PAIN PERCEPTION DURING LATENT PHASE OF LABOUR AMONG PRIMI GRAVID WOMEN.

Dissertation Submitted To

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

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IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE AWARD OF

DEGREE OF

MASTER OF SCIENCE IN NURSING

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ABSTRACT

ABSTRACT

Paced breathing is effective in producing relaxation and pain relief through the use of distraction. If the woman is concentrating on slow paced rhythmic breathing, she is less likely to focus on contraction pain. The visual focus creates a visual stimulus that goes directly to her brain. Paced breathing promotes relaxation through reducing the sympathetic response of the autonomic nerves system. It helps to redirect thought process, increase oxygenation to mother and the fetus, stimulates circulation thus reducing labour pain perception.

A study was conducted to evaluate the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women in Jeganath Hospital at Dindugal. The objective of this study was to determine the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid woman. The hypothesis of the study was there is no significant difference between paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women.

The study was conducted by adopting a quasi experimental design. Fifty primi gravid women with latent phase of labour who fulfilled the inclusion criteria were selected by using purposive sampling technique. Lottery method was used to assign the mothers into two groups. Two group were selected for interventions. In that group I was given paced breathing and group II was given sacral massage. Interventions was implemented from 2 to 4 cm cervical dilatation after assessment of labour pain perception. Effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women was assessed by using 0-10 numeric pain intensity scale.

Analysis revealed that in post intervention, paced breathing group had 2.4 mean score and sacral massage group had 3.48 mean score. The independent ‘t’ test value of 3.74 at $p<0.001$ level indicates that paced breathing was more effective in reduction of labour pain perception during latent phase of labour among primi gravid women . Therefore, paced breathing can be used as a safe and effective intervention which helps to reduce labour pain perception.

INTRODUCTION

CHAPTER I

INTRODUCTION

"Women report higher levels of satisfaction with their labour

experience when they feel a high degree of control

over the experience of pain"

- McCrea et al., 1999

Labour is one of the major event in a woman's life. Labour is described as the process by which the fetus, placenta and membranes are expelled through birth canal. Normal labour occurs at term and is spontaneous in onset with the fetus presenting by the vertex. The first stage begins with full regular rhythmic contraction manifested as pain to the complete cervical dilatation. The second stage begins with full cervical dilatation to expulsion of the fetus. The third stage occurs with separation and expulsion of placenta and membranes completely. As the pain increases the stage of labour progresses.

Pain is an unpleasant and distressing symptom that is personal and subjective. No one can feel another's pain, but empathic nursing care helps to alleviate pain and helps the women to cope with it. All the pain involves both physical and psychological components. A person thoughts, feelings and beliefs are interconnected with the perception of pain.

Researchers believes that pain stimuli are filtered through the limbic hypothalamic system that the frontal cortex in the brain. The pain threshold is the level of pain necessary for an individual to perceive. Pain tolerance refers to an ability of an individual to withstand pain. Each woman responds to labour in a unique way. The experience of labour is reported differently among women.

Labour pain is primarily physical in nature. It usually has a finite duration and can be relieved by various pharmacological and non pharmacological methods. The pain experienced by a woman in labour is caused by the uterine contraction and dilatation of the cervix in the late first stage. These painful stimuli are transmitted to thoracic, lumbar and selected nerves from the uterus. Pain often motivates her to assume different body positions, which facilitates the normal descent of the fetus. Birth pain lasts for hours, as opposed to days or weeks. Labour ends with the birth of an infant followed by a rapid and nearly total cessation of pain.

Tucker. S, (2007), had suggested that pain from uterine contraction and dilation of the cervix during the first stage of labour is transmitted by afferent fibers to the sympathetic chain of the posterior spinal cord at T_{10} to T_{12}, and L_1. In early labour, pain is transmitted primarily from T_{11} to T_{12}. An activation of peripheral small A delta and C afferent nerve fibers of these nerve terminals to T_{10} and L_1. Pain during the first stage may be referred due to the nerve impulses from the uterus and cervix stimulate spinal cord neurons. As a result, the woman experiences pain over the abdominal wall between the umbilicus and symphysis pubis around the iliac crest.

The labour pain perception is influenced by physiologic, psychologic, and cultural factors. Pain can lead to anxiety and influence maternal physiologic responses and the course of labour. For example, physical manifestations of anxiety may include muscular tension, hyperventilation, increased sympathetic activity, and norepinephrine release, which can lead to increased cardiac output, blood pressure, metabolic rate, and oxygen consumption, and impaired uterine contractility. Anxiety can also increase fear and tension, reducing pain tolerance, which further decreases uterine contractility.

Alber. S, (2007) had stated that, a woman’s pain perception can be influenced by her previous experience with pain, positive and negative support system, level of emotional stress, and cultural expectations. Some Appalachian community women believes that placing a knife under the bed of a labouring woman may helps to cut the pain of child birth. Orthodox Jewish women are requesting that,

their own mothers should accompany with her labour rather than their husband to promote psychological wellbeing.

Nonpharmacologic measures are usually simple, safe and inexpensive to use. Many of these measures are started to taught in childbirth classes. Women should be encouraged to try a variety of methods prior to the real labour. Many of the measures need to be practiced for best results and coordinated with the partner and coach. The nurse provides support and encouragement for the woman and her partner to use nonpharmacologic methods. Although women can consciously direct the labour contractions thereby enhancing their feeling of control.

Scott. S, (2007) had suggested that breathing techniques are effective in producing relaxation and pain relief through the use of distraction. If the woman is concentrating on slow paced rhythmic breathing, she is less likely to focus on contraction pain. Breathing techniques are often taught in childbirth education classes. Controlled breathing can reduce the labour pain through a stimulus response. The woman selects a focal point within her environment to stare at during the first sign of a contraction. This focus creates a visual stimulus that goes directly to her brain. Verbal commands from her partner supply an ongoing auditory stimulus to her brain. Massage can be combined with the breathing to provide a tactile stimulus, and blocks pain sensations to her brain.

Breathing techniques are flexible for individual and focused on using a slow paced breathing rate throughout labour. Breathing strategies are based on specific understanding of respiration and changes during pregnancy and labour. Normal respiratory rate is 12 to 16 breaths per minute. In pregnancy the respiratory rate increases slightly, respiratory effort increases owing to uterine enlargement. It results in pressure on the diaphragm and increases oxygen demand. The increased need for oxygen generally is accommodated by an increased depth of respiration and a slight decrease in rate explained by Nichols (2000).

Blackburn. B, (2007) stated that massage and therapeutic touch promotes relaxation and pain relief during labour. Massage works as a form of pain relief by increasing the production of endorphins in the body. Endorphins reduces the transmission of signals between nerve cells and thus lower the perception of pain during labour.

Sacral massage provides relief to many women during the first stage of labour. Firm pressure to the sacral area may help the woman to cope with the sensations of internal pressure and pain in the lower back. Massage stimulates the body to release endorphins which are natural pain reducing and moodlifting hormones. These massage techniques used during the first stage of labour are specifically designed to support the woman during contraction explained by Kirsten Boustred (1999).

Arenson et al., (2007) had suggested that nonpharmacologic measures includes continuous labour support, hydrotherapy, ambulation and position changes, acupuncture and acupressure, attention focusing and guided imagery, therapeutic massage, breathing techniques, and music therapy. Most of these methods are based on the gate control theory of pain, which proposes that local physical stimulation can interfere with pain stimuli by closing a hypothetical gate in the spinal cord, thus blocking pain signals from reaching the brain. Nonpharmacological measures are very helpful for the women with labour to relieve pain and gain control.

NEED FOR THE STUDY

Labour pain is natural way of altering the pregnant mother about impending child birth. The intensity of discomfort a woman is having in labour, could be understood by listening to what she is saying.

The woman who has a short, intense labour often experiences more pain than the woman whose birth process is more gradual. Contractions are intense, frequent and their onset may be sudden. The cervix, vagina, and perineum stretch more abruptly during the labour. Contractions come so fast that the woman cannot recover

from it. In addition, a rapid labour limits the woman choices for pharmacological pain control.

There are several advantages to nonpharmacological methods if pain control is adequate. Poorly relieved pain increases fear and anxiety, thus diverting blood flow from the uterus and impairing the normal labour process. Nonpharmacological methods do not harm the mother and fetus. They do not slow labour if they provide adequate pain control. They carry no risk for allergy or adverse drug effects.

Scopesi et al., (1997) had conducted a study on women experience the complexities of labour in numerous ways. Most women described as a pain was intolerable. Swedish study explained that 278 women with labour participants in the study. Among that 41% of women described pain as the worst imaginable, and 28% of women experienced the pain in a positive way.

Brown et al., (1989) had suggested that during the first stage of labour primi gravid women experienced higher pain scores than those of multigravida with same cervical dilatation. This may be due to better coping mechanism with previous experience of labour pain.

Joint data collection by nine nurse midwifery practices in the United States permitted a description of pain management practices with intrapartum patients. The sample size was 4,171. Observational data was reported. A wide variety of pain management, including both pharmacologic and nonpharmacologic methods were used. High prevalence modalities were paced breathing (used by 55.2% of this clinical sample), activity and position change (42.4%), narcotics (30.0%), and epidurals (18.7%). The study concluded that majority of women used paced breathing as a pain relief measure during labour.

A recent survey among American women who gave birth between 2000 and 2002 found that 61% of the respondents used breathing techniques during labour. In that 69% of women rated that breathing was very helpful for reducing labour pain. An

older survey among British women found that 88% of women who reported using breathing and relaxation during labour found to be good.

During the clinical posting in upgraded primary health centre, Kundrathur, the investigator have seen the women who were admitted for labour process especially primi gravid women were not able to tolerate the pain. They requested for pain relief measures in order to reduce the labour pain. The investigator personally experienced more pain during her labour. Even though there are lot of nonpharmacological measures available. Interventions like paced breathing and sacral massage plays a major role in reducing labour pain perception. So that the investigator likes to compare these two interventions which is more effective in labour pain perception during latent phase of labour.

STATEMENT OF THE PROBLEM

A study to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women in Jeganath Hospital at Dindugal.

OBJECTIVES

1. To assess the level of labour pain perception during latent phase of labour among primi gravid women.
2. To evaluate the effectiveness of paced breathing on labour pain perception during latent phase of labour among primi gravid women.
3. To evaluate the effectiveness of sacral massage on labour pain perception during latent phase of labour among primi gravid women.
4. To compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women.

5. To associate the pre intervention and post intervention level of labour pain perception following paced breathing versus sacral massage among primi gravid women with their demographic variables.

OPERATIONAL DEFINITIONS

Effectiveness: Refers to the reduction in the labour pain perception followed by paced breathing versus sacral massage during latent phase of labour among primi gravid women.

Paced breathing: Refers to a slow rhythmic breathing exercise which consist of 6-8 breaths per minute.

Sacral massage: Refers to the manual pressure applied on sacrum by using palms of the hands, which stimulates the body to release endorphins thus reducing labour pain perception.

Labour Pain Perception: Refers to the pain experienced by the women during labour through verbalization as measured by 0-10 numeric pain intensity scale.

Latent Phase of labour: Refers to the period from the onset of uterine contraction to 4 cm dilation of cervix.

Primi gravid women: Women who are pregnant for the first time and undergoing labour for the first time.

HYPOTHESIS

There is no significant difference between paced breathing and sacral massage on labour pain perception during latent phase of labour among primi gravid women.

DELIMITATIONS

- The study period was delimited to 4 weeks.
- The sample size was delimited to 50 primi gravid women.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

Review of literature refers to an extensive, exhaustive and systematic examination of publications relevant to research project. (Polit 2008)

Review of literature is a key step in research process, as it provides a broad understanding of all research problems. Review should be comprehensive and evaluative. Review of literature helps to plan and conduct the study in a systemic manner. Keeping this in mind the investigator has made through study on available sources which has helped in projecting the widened prospective of the study. This chapter consists of two parts.

PART – I REVIEW OF RELATED LITERATURE

Labour may be described as the process by which the fetus, placenta and membranes are expelled through the birth canal. The pain of labour and birth is different from other types of pain in several ways. In most instances, Pain is a warning sign of injury, but labour pain is associated with a normal physiologic process. During labour intensity increases as the woman approaching birth. Pain control during labour is a very woman centred concept. Women are not always more satisfied by a birth experience that is pain free. Midwives are therefore required to give control of pain to women rather than eradicating it. The literature found relevant and useful have been presented in this chapter in the following components.

- Literature related to labour pain
- Literature related to effectiveness of paced breathing on labour pain perception.
- Literature related to effectiveness of sacral massage on labour pain perception.

PART- II CONCEPTUAL FRAME WORK

PART- I

REVIEW OF RELATED LITERATURE

Literature related to labour pain

The woman in labour experiences two types of pain such as visceral and somatic. Visceral pain is related to contraction of the uterus, dilation and stretching of the cervix. Uterine pain during the first stage of labour results from ischemia caused by constriction and contraction of the arteries supplying to the myometrium. Somatic pain is caused by pressure of the presenting part on the birth canal, vulva, and perineum. Visceral pain is experienced primarily during transition and the second stage of labour. Somatic pain is more intense and localized.

Leap. N, et al., (2010) had conducted a qualitative descriptive study on women's experiences of pain in labour and relational continuity of care in centre for midwifery at Sydney. Sample size was 10 women with labour. They conducted a thematic analysis of semi structured, audiotaped interview with the participants. Structured questions were asked to the participants regarding preparation, support of labour and midwifery care. The results showed that a women developed confidence, ability to cope with labour pain due to trusting relationship by the midwives. These experiences enhanced women's ability to overcome fear and self doubt about coping with pain.

Ploeg. V, et al., (2010) had conducted a randomized clinical trial on transcutaneous nerve stimulation during the first stage of labour in St. Antonious Hospital at Netherland among 94 antenatal mothers. In that 46 mothers were in labour treated with transcutaneous nerve stimulation and 48 mothers were in labour treated with a placebo apparatus. Main outcome measures were pain relief, amount of administered analgesics, obstetrical and neonatal outcomes. The outcome measures were assessed through semi structured questionnaire. The mean difference between both the groups shows highly significant ($t = 3.23$). This study concluded that both

the groups had equal experience in reduction of labour pain and improvement in fetal outcomes.

Hsiang. Y, (2010) had conducted a randomized controlled trial on the effects of music on pain reaction and anxiety during labour in National Chang Kung University at Taiwan among sixty mothers in labour. Random sampling technique was used to select primi gravid women in labour. Experimental group (n = 30) and control group (n = 30) was assigned. Music therapy was given to experimental group for each contraction. A visual analogue scale and a nurse rated present behavioural intensity were used to measure the labour pain. Labour pain was compared during the latent phase and active phase separately. Data analysis were showed that (t =9.231) is highly significant. The study results revealed that the experimental group had significantly lower labour pain, anxiety during the latent phase of labour than the control group.

Ade. S, et al., (2009) had conducted a qualitative study on women's representations and experiences with vaginal delivery in public and private maternity hospitals at Brazil. The sample size was 90. This study analyses the different experiences of women from different social classes. Analysis were done through the comparison of social class and type of hospital. The study concluded that women experienced greater comfort while delivered in private hospitals. The private hospitals promote possibility of women's empowerment during child birth.

Hunter. L, (2009) had conducted a correlational study on being with woman during labour and birth in two different delivery unit at USA. The sample size was 238 postpartum women. A convenient sampling technique was used to select the sample. Pain during labour was assessed by using likert scale and positive presence index. The study results showed that women who had used comfort techniques, music therapy and breathing during labour showed higher positive presence index. The study concluded that alternative therapies are effective in reducing labour pain.

Doung. P, et al., (2009) had conducted a factorial randomized control study on effect of the combination of small dose analgesic and music therapy on labour pain among 180 women with labour pain in Sri Thammarat Hospital at Thailand. A random sampling method was used to assign participants into four groups. First group (n = 45) was as control group, second group had received a small dose of analgesics (n = 47). Third group received regular dose of analgesic (n = 45) and last group received music therapy along with small dose of analgesic. Analysis of variance was used to make comparison. The study result showed that (F = 3.651) which was highly significant. The study concluded that the use of music together with small amounts of analgesic can decrease labour pain.

Tahmineh. S, et al., (2009) had conducted an comparative study on Hoku point acupressure versus San-yin-Jiao acupressure on labour pain and the length of delivery time in ninety primipara women in Iran Hospital at Iranshahr City. Sample size was 90. The subjects were randomly assigned into 3 equivalent groups (n = 30). First group participants were given Hoku acupressure, second group received San-yin-Jiao acupressure and third group as control group. Both groups were given acupressure for 20 minutes during contractions. Labour pain was measured by means of visual analogue scale before and after intervention of 4, 6, 8 and 10 cm cervical dilation. Length of delivery time was calculated at 4 and 10 cm cervical dilatation. The results indicated that there was significant difference between the 3 groups p=0.07. The study concluded that acupressure affects the intensity of labour pain and shortens the duration of labour.

Smith. C, et al., (2006) had conducted an experimental study on the effects of alternative therapies for pain management in labour in general hospital at Cochrane among 1537 women in labour. Alternative modalities were given to manage labour pain. These methods includes acupuncture, massage, hypnosis, and music. Data reporting that 1,537 women used different modalities of pain management. Among these, 1448 women showed that reductionof labour pain with alternative modalities.

The study concluded that using alternative modalities was helpful in reducing labour pain.

Lowe, (1991) had conducted descriptive study on assessment of sensory and affective dimensions of labour pain in child birth hospital at Netherland. The Sample size was 100 women with labour. Semi structured questionnaire were given to the participants regarding physical and psychological variables during labour. Data analysis were showed that primi gravid women affected highly with physical and psychological variables. The study concluded that, compared to multi gravid, the primi gravid women experienced more pain and discomfort.

Bonnel. C, et al., (1985) had conducted 100 primi gravid women with labour. Labour pain was expressed at various cervical dilation. Pain assessed by a pain rating index and discomfort assessed by behavioural index. Pain intensity described as no pain, moderate pain, and severe pain. The data analysis revealed that p=0.40. The study concluded that during the first stage of labour primi gravid experienced higher pain.

Literature related to effectiveness of paced breathing on labour pain perception

Breathing is normally involuntary and it is continuous at different rates and depth. Breathing strategies are based on scientific understanding of respiration, changes during pregnancy and labour. Paced breathing decreases stress, pain and increases relaxation during labour. Paced breathing has been shown to promote relaxation through reducing the sympathetic response of the autonomic nerves system and to stimulate the parasympathetic branch. A rate of breathing should be comfortable and provides adequate ventilation for the mother and fetus.

Beny. J, (2010) had conducted a quasi experimental study on effectiveness of breathing and relaxation techniques in terms of pain, anxiety and fatigue during first stage of labour among primi gravid women in Kasturiba Hospital at Dindugal. The Sample size was 60. In that 30 primi mothers were selected for experimental group

and 30 for control group. Purposive sampling technique was used visual analogue scale, spielbergers anxiety scale and observation checklist was used to assess the pain. Data analysis showed that, the pain level (t = 4.294), anxiety level (t = 3.899) and fatigue (t = 1.60) were highly significant. The study concluded that breathing was effective in reducing labour pain, anxiety and fatigue among primi gravid women.

Sumitha. M, (2008) had conducted an experimental study to assess the effectiveness of breathing technique in reducing labour pain during first stage of labour among primimothers in Sree Mookambika Medical College Hospital at Kulasekharam. Two group pre intervention post intervention design was used. Sample size was 60. In this study mothers for control group. Post test level of pain was assessed by using visual analogue scale. For the experimental group after 3 cm cervical dilation a module of breathing was given then pain was assessed after 1 hour. The mean difference between both the groups shows highly significant (t = 9.925). The study concluded that breathing was effective in reducing labour pain.

Stella. M, (2008) had conducted a quasi experimental study regarding paced breathing on labour pain perception among primi gravid mothers in Christian mission hospital at Madurai among 60 primi gravid mothers. In this study 30 primi gravid mothers were selected for experimental group and 30 primi gravid mothers for control group. Teaching was given for experimental group during latent phase of labour regarding paced breathing. Labour pain was assessed through using visual analogue scale after 5 cm cervical dilatation. Data analysis were showed that (t = 9.091) highly significant. The study concluded that paced breathing was effective in reducing the labour pain perception.

Kamu. V, (2008) had conducted an experimental study on selected nursing measures to reduce labour pain during first stage of labour among primi gravid mothers in Sellur Maternity Hospital at Madurai. Post test only control groups design was used. In this study 30 primi gravid mothers were selected for experimental group and 30 prim gravid mothers for control group. The breathing techniques and massage was selected as nursing measures to reduce labour pain. The pain was assessed by

using visual analogue scale. Data analysis were showed that (t = 8.062) highly significant. The study concluded that both the interventions like breathing techniques and massage was effective to reduce labour pain perception.

Kalaimathy. S, (2007) had conducted a quasi experimental study regarding paced breathing on labour pain perception among primi gravid mothers in Kovai Medical Centre hospital at Coimbatore. Pre intervention level of pain was measured by using numerical pain scale. Paced breathing was demonstrated for experimental group. Post intervention pain was measured at 6 cm cervical dilatation. Subjects who practiced paced breathing reported significant reduction on labour pain perception (t = 4.28) rather than control group (t = 6.22). The results supported that slow paced breathing is very suitable and feasible therapy for reduction of pain in labour process.

Jayabarathi. S, (2006) had conducted an experimental study on effectiveness of selected nursing interventions on labour pain perception during first stage of labour among prim gravid mothers in selected hospital at Pattukottai. Pre assessment of pain level was done through visual analogue scale. Subjects who practiced paced breathing reported significant reduction on labour pain perception (t = 7.26) rather than control group (t = 1.468). The results supported that massage and breathing was very suitable and feasible therapy for reduction of labour pain.

Mary. K et al., (2005) had conducted an experimental study on effects of complementary therapies on pain and labour outcomes in nulliparous in Fatemiyeh hospital at Iran. The Sample size was 300. In that 150 women were selected for experimental group and 150 women were selected for control group. Experimental group received nonpharmacological pain relief methods including massage, breathing techniques and emotional supports during labour. Pain intensity in first and second stage of labour was determined by verbal numeric analogue scale. Data were analyzed by Chisquare test. The mean score of pain in first stage was 2.2 and second stage 3.4. This study concluded that complementary therapies was effective on pain relief and labour outcomes.

Yildirim. G, (2004) had conducted an experimental study on the effect of breathing and skin stimulation techniques on labour pain perception of Turkish women in Bakirhoy women and children hospital at Turkey. Fourty women with labour was selected by purposive sampling technique. Among that 20 were in experimental group and 20 were in control group. Data collected through visual analogue scale, inspection form and observational form. Information about breathing and massage was given to experimental group at the beginning of labour. Data analysis showed that (t = 9.02). The study concluded that both the interventions were effective in reducing the labour pain perception when provided in the latent phase of labour.

Spiby. H, et al., (2003) had conducted an exploratory research study on selected coping strategies during labour in Mother and infant research unit at United Kingdom. An exploratory research design was used. Sample size was 121 women. A women were interviewed within 72 hours of the birth of their first child. Information obtained about the use of breathing, postural changes, and relaxation strategies during labour. The study concluded that among all these measures breathing was effective in reducing labour pain.

Literature related to effectiveness of sacral massage on labour pain perception

Sacral massage is the manual pressure applied to sacrum for pain relief. Massage can be done with direct skin contact. A women may have bought some aroma oils for massage. By using the hands, long firm strokes are given over the sacrum to the sacroiliac joints. It helps to relieve muscle tension while producing the psychological stimulation.

Field. T, (2010) had conducted an experimental study on pregnancy and labour massage in Touch research institute at USA. Massage therapy has been demonstrated to be effective during pregnancy. Women who received massage therapy experienced significantly less pain and labour were on average 3 hour shorter with less need for medication. Stimulation of pressure receptors that are involved in

regulation of autonomic nervous system and cortisol secretion thus reducing labour pain. The study concluded that women who received massage therapy reported decreased depression, anxiety, and labour pain.

Shanthi. T, (2010) had conducted an experimental study on effectiveness of sacral massage on labour pain perception among primi gravid mothers in selected hospitals at Madurai. The sample size was 60. Convenient sampling technique was used to select the primi gravid mothers. The pre intervention level of pain was determined at latent phase of labour by using visual analogue scale. The pain was assessed during first, second and third stage of labour. Analysis showed that ($t = 4.29$) highly significant. The study concluded that experimental group shows reduction in labour pain.

Kimber. L, et al., (2008) had conducted a randomized controlled trial on massage and music therapy for pain relief in labour in maternity unit at Horton. The sample size was 50. Among that 25 were in experimental group and 25 were in control group. Pre intervention level of pain was measured by visual analogue scale at 2cm dilatation. Massage along with music therapy was given to an experimental group. The findings suggested that, regular massage with relaxation techniques during labour helps to cope with the birth process and promotes comfort with labour pain.

Marial. A, (2008) had conducted an experimental study on effectiveness of sacral massage on labour pain during first stage of labour among mothers in a selected maternity centre at Thirupur. The Sample size was 30. Pre intervention level of pain was measured by numerical pain scale. Massage was given for each contraction from the onset of labour. Pain were assessed at 3cm and 5 cm cervical dilatation. The results showed that ($t = 5.09$) highly significant. The study concluded that experimental group shows reduction in labour pain due to massage.

Padmavathi. T, (2007) had conducted a quasi experimental study on the effectiveness of sacral massage on pain relief during first stage of labour in selected hospitals at Raichur among sixty mothers during first stage of labour. Convenient

sampling technique was 6 cm dilatation. Structured interview, visual analogue scale and anxiety scale was used to measure the pain level. Analysis showed that (t = 4.25) indicated significant difference between the pain levels in both groups. The study concluded that women who received sacral massage reported less pain.

Chang. M, et al., (2006) had conducted an experimental study on effectiveness of massage on labour pain in National Taiwan Institute at Taiwan. Sample size was 60. Random sampling method was used to select primiparas in labour. Pretest level of pain was measured at latent phase of labour. Massage was given for each contraction. Mc Gill pain questionnaire was used to assess the pain level at 3 phases of cervical dilatation. Data analysis showed that (t = 4.75) highly significant. The study concluded that massage was effective in reducing labour pain during latent and active phase of labour.

Lee. K, et al., (2003) had conducted a quasi experimental study on effects of full body massage on labour pain in obstetrics and gynaecology hospital at Iran city. The Sample size was 57 primi gravid mothers. Among that 28 women were assigned to the experimental group and 29 were assigned to the control group. The experimental group was given 20 minutes full body massage for each of three delivery phases. The labour pain were measured by the visual analogue scale. Stress were measured by anxiety scale. Data were analysed by frequency, percentage and 't' test. The study showed that significant reduction of labour pain. (F = 3.840, p = 0.028).The study concluded that massage was effective in reducing labour pain.

Wong. S, et al., (2002) had conducted a randomized controlled study about effects of massage on pain and anxiety during labour in National Tainan Institute at Taiwan. Sixty primi parous women was included in this study. Experimental group (n = 30) received massage intervention. Present behavioural intensity was used to measure the labour pain and anxiety through visual analogue scale. Data analysis were demonstrated that the experimental group had significantly lower pain reaction

(t = 4.65). The study concluded that, (87%) of subjects reported that massage was helpful to decrease pain and anxiety during labour.

Saadatsalari, (2002) had conducted an experimental study on effect of massage on reducing pain and anxiety during labour in Jiroft City Hospital at Kerman. among 60 women. Women who was in labour was randomly assigned to experimental (n = 30) and control group (n = 30). The experimental group received massage intervention for each contraction. Present behavioural intensity was used to measure the labour pain. The intensity of pain and anxiety between two groups were compared in latent phase, active phase and transitional phase of labour. Data analysis demonstrated that an experimental group had significantly lower pain reaction in all three phases $p<0.40$. The study suggested that 87% of cases in experimental group expressed that massage was provided pain relief and psychological support during labour.

Simkin. P, (2002) had conducted an experimental study on use of nonpharmacologic methods during labour in department of family medicine at Washington among 50 women with labour. The semi structured questions regarding labour support, bath, massage, maternal movement and positioning for back pain relief. Critical evaluation of five methods suggested that massage and labour support was effective in reducing labour pain and improving obstetric outcomes. The study concluded that the nonpharmacological methods was safe when used appropriately during labour.

The above literature showed that, most of the women experienced more pain during labour. Various measures were used to reduce labour pain such as breathing technique, massage, music therapy and hot water bath. All these measures were useful in reducing labour pain.

PART – II

CONCEPTUAL FRAME WORK

A conceptual framework is made up of concepts, which are the mental images of the phenomenon. It provides the guidelines to proceed to attain the objectives of the study based on the theory. It is a schematic representation of the steps, activities and outcome of the study.

Open system theory was developed by Janet. W. Kenny by the year of 1999. The central focus of an open system is a system that regularly exchanges feedback with its external environment. Open systems are systems, of course, inputs, processes, outputs, goals, assessment and evaluation. Healthy open systems continuously exchange feedback with their environments, analyze that feedback, adjust internal systems as needed to achieve the goals. All systems have boundaries, although the boundaries can be difficult to identify because systems can be very dynamic. Open systems have porous boundaries through which useful feedback can readily be exchanged and undersStood.

An open system that Kenny speaks about concepts of environment, input, throughput, output and feedback. He explains that, environment is all the elements outside the system that have the potential to affect the system. Anything that comes into the identified system from the environment is described as an input. Throughput is the process of conversion of resources within a system. Kenny explains that output refers to anything that leaves the system. Continuing source of information concerning the relationship with the environment used is feed back mechanism.

The investigator adopted this basic model to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women. This involves interaction between the researcher and the primi gravid women. The four major concepts phenomenon are described as follows.

Environment

Environment refers to all the elements outside the system that have the potential to affect all or part of the system. In this study environment indicates the hospital and labour ward which was having interaction with the primi gravid women who was in labour process. This environment and the demographic variables like age, education, occupation, monthly income, religion, type of family, nature of labour, practice during pregnancy regularly and presence of family member in labour interact with pre intervention level of labour pain perception among primi gravid women. It measured at 2 cm cervical dilatation through 0-10 numeric pain intensity scale which was given by Registered Nurses Association of Ontario (2002).

Input

Input refers to anything that comes into the identified system from the environment. In this study the input indicates that, demonstrated paced breathing to group I primi gravid women and instructed to do two paced breathing for each contraction from 2 cm cervical dilatation to 4 cm cervical dilatation. Implemented sacral massage to group II primi gravid women during each contraction from 2 cm cervical dilatation upto 4 cm cervical dilatation. One full sacral massage was given during each contraction.

Throughput

Throughput refers to the process of conversion of resources within a system. In this study throughput is the mechanism by which the labour pain perception is reduced. Paced breathing promotes relaxation through reducing the sympathetic response of the autonomic nerves system. Thought process was redirected from a pain response through focal stimuli. Stimulates circulation and increases oxygenation to mother and fetus. The sacral massage stimulates the body to release endorphins which acts as a natural pain killing and mood lifting hormone. Stimulation of pressure receptors that are innervated by vagal afferent fibres involved in autonomic nervous system regulation.

Output

Output refers to anything that leaves the identified system and is transferred to the environment. Post intervention level of labour pain perception among primi gravid women after the interventions at 4 cm cervical dilatation was measured by using 0-10 numeric pain intensity scale. The investigator explained that here the reduction of labour pain perception among primi gravid women due to paced breathing and sacral massage. There was an effective reduction of labour pain perception due to paced breathing and moderate reduction of labour pain perception due to sacral massage.

Feed back

A continuing source of information concerning the relationship with the environment used, to make the necessary changes in order to survive and to grow. The investigator explained that the moderate reduction of labour pain perception again needs intervention.

Thus the investigator felt that J.W. Kenny model (1999) was applicable for her study. This theory was mainly having the concepts of system and interactions. Here, the system was considered as primi gravid women, who under goes various changes due to labour process. The primi gravid women need various types of interactions to cope up with the labour pain so, the investigator adopted this theory and explains her study in various aspects based on the components of this model.

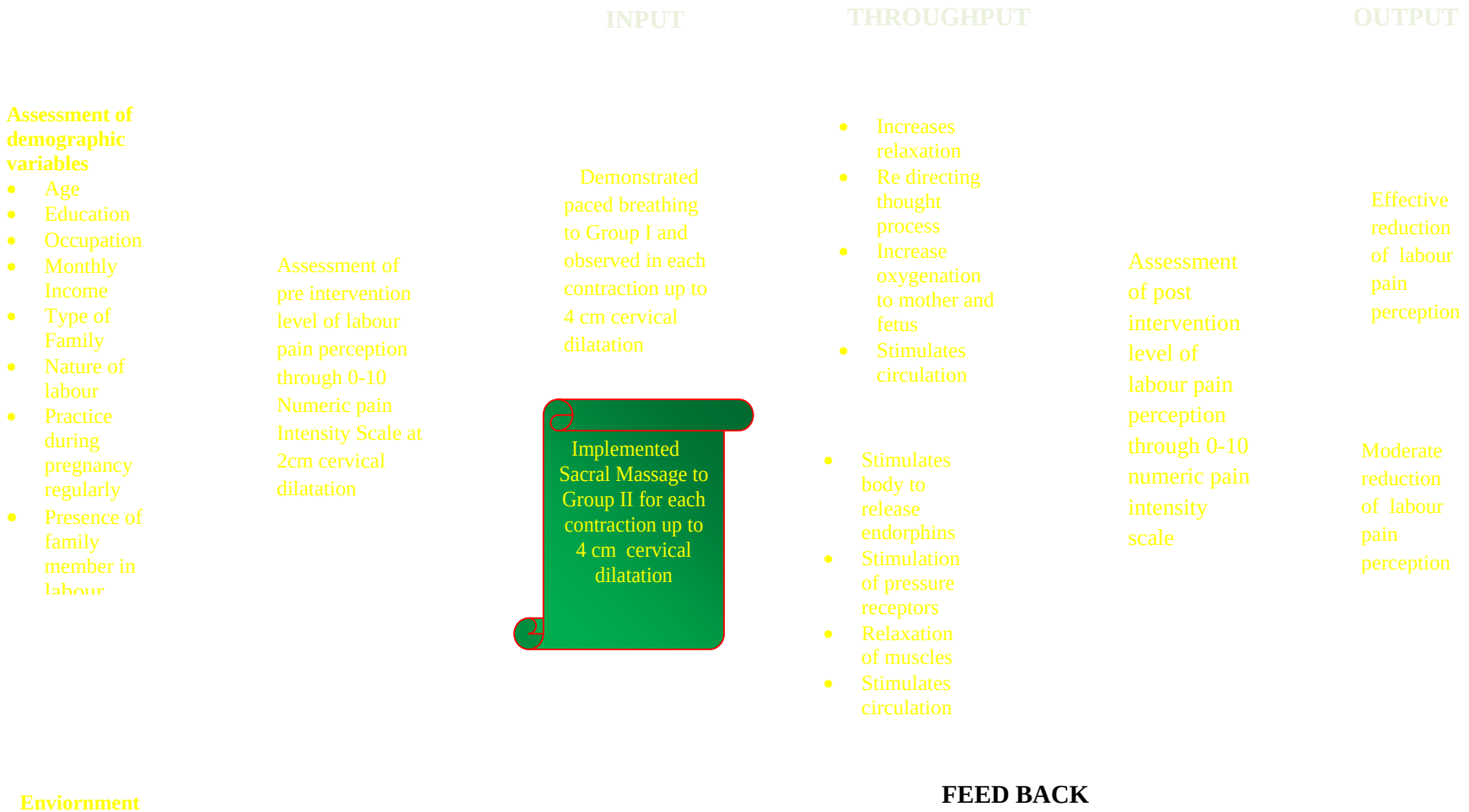

FIG.1: MODIFIED J.W. KENNY'S OPEN SYSTEM MODEL., (1999)

METHODOLOGY

CHAPTER – III

METHODOLOGY

Research methodology is a system of models, procedures and techniques used to find the results of research problem. This chapter explains the methodology followed to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women in Jeganath Hospital at Dindugal. It deals with the research design, the settings of the study, population, the sampling technique, the instrument, score interpretation, pilot study, data collection and data analysis.

RESEARCH DESIGN

The research design selected for this study was Quasi experimental design. This design was used to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women.

SETTING OF THE STUDY

To carry out the study the investigator had selected the Jeganath Hospital at Dindugal, in Dindugal district, Tamilnadu state. The hospital consists of 130 bed strength. This centre is equipped with Modern modalities and it has adequate facilities like critical care intensive care unit, Pharmacy, laboratory, antenatal outpatient department, postnatal ward, well furnished labour room, and neonatal intensive care unit and operation theatre for caesarean section. It is also providing family welfare services. Totally 100 normal vaginal deliveries are conducted and 50 lower segment caesarean section are performed every month. The labour room is equipped with two labour tables, spot light, warmer, vacuum extractor, and set of obstetrical instruments, new born resuscitation kit, and an emergency drug. This centre is providing various benefits for maternal and child health.

POPULATION

The population consists of all primi gravid women during latent phase of labour admitted in labour ward of Jeganath hospital.

SAMPLE

The sample consists of primi gravid women with labour pain during latent phase of labour who fulfilled the inclusion criteria.

SAMPLE SIZE

The sample size consists of 50 primi gravid women during latent phase of labour, in that 25 primi gravid women were selected as a group I for paced breathing and 25 primi gravid women were selected as a group II for sacral massage.

SAMPLING TECHNIQUE

Purposive sampling technique was used to select the primi gravid women with labour pain in Jeganath Hospital at Dindugal.

Lottery method was used to assign the groups. Those who has taken lot A were considered as a group I, and those who had taken lot B were considered as a group II for the intervention. Group I primi gravid women with labour pain were selected for paced breathing and group II primi gravid women with labour pain were selected for sacral massage.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria

- Primi gravid women between the age group of 18 to 35 years.
- Primi gravid women those who were admitted in labour ward at Jeganath Hospital at Dindugal.
- Primi gravid women who can understand Tamil and English.

Exclusion Criteria

- Primi gravid women with cervical dilatation more than 4 cm.
- Primi gravid women who were not willing to participate.
- Primi gravid women with pre existing medical illness.

DESCRIPTION OF THE INSTRUMENT

The instrument was developed after literature review and guidance from experts. This consists of three parts,

Part I

The demographic variables consists of age, education, occupation, monthly income, religion, type of family, nature of labour, practice during pregnancy regularly, presence of family member in labour.

Part II

A standardized 0-10 numeric pain intensity scale was used by the investigator. This scale was given by Registered Nurse association of Ontario (2002) The minimum score is 0 and maximum is 10.

The scores were interpreted as follows:

- 0 : No pain
- 1 - 3 : Mild
- 4 - 6 : Moderate
- 7 - 8 : Severe
- 9 – 10 : Worst Possible

Part III

Paced breathing is a slow rhythmic breathing exercise which consists of 6 to 10 breaths per minute. Explain the procedure to the mother. Make the mother to sit comfortably. Take a deep breath at the beginning of contraction. Ask the mother to inhale slowly through her nose and exhale through pursed lips. While breathing ask the mother to concentrate on visual point. Ask her to do the same throughout the contraction. At the end of contraction breathe out slowly and relax completely. Ask her to continue this breathing exercise for each contraction.

Sacral massage is the manual pressure applied on sacrum by using palms of the hands for pain relief. Explain the procedure to the mother. Make the mother to lie down in a left lateral position. Place the heel of the hand over her sacrum and the other hand over the first hand. Make firm, smooth, rhythmic strokes in sacral region. Then outward movement of the hands from the sacroiliac joints to the wings of the ileum. It has to be continued throughout the contraction. Make the mother to relax and comfortable.

VALIDITY

Validity is the most important single methodological criteria for evaluating any measuring instrument. The content validity of the instrument was obtained from the experts in the field of obstetrics and gynaecology.

RELIABILITY

The reliability of the instrument was assessed by interrater method. The r value is 0.85. This correlation coefficient was very high and the tool was reliable for evaluating the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women.

ETHICAL CONSIDERATION

The study was conducted after the approval of dissertation committee and medical director. Formal written permission was obtained from the medical director of Jeganath hospital. Primi gravid women during latent phase of labour were clearly explained about the study purpose and procedures. The formal written consent was obtained from the samples. The usual assurance of anonymity and confidentiality was obtained.

PILOT STUDY

Pilot study is the trial of the major study. The pilot study was conducted from 18.04.11 to 24.04.11 in Jeganath hospital. Formal written permission was obtained from the medical director of Jeganath hospital. Six primi gravid women with labour who were admitted in the Jeganath hospital were selected. In that three primi gravid women were selected for paced breathing and three primi gravid women were selected for sacral massage. The participants were selected by using purposive sampling technique.

A brief introduction was given about the purpose of the study to the primi gravid women to get cooperation. Written consent was obtained from the participants. Pre intervention level of labour pain perception was assessed by using 0-10 numeric pain intensity scale at 2 cm cervical dilatation. Demonstrated paced breathing for group I participants and asked them to do it for each contraction. The investigator explained and implemented sacral massage for group II primi gravid women during each contraction. Post intervention level of labour pain perception was assessed after 4 cm cervical dilatation in both groups.

The results were analysed through the scores given by the participants. During pilot study the validity, the reliability and practicability of instrument was checked. The result of pilot study shows that the feasibility of the original study.

DATA COLLECTION PROCEDURE

A formal written permission was obtained from Managing Director of Jeganath Hospital at Dindugal. The data collection procedure was conducted for one month from 01.06.11 to 30.06.11. Self introduction was given to participants. Written consent from the participants was obtained. The investigator selected the mothers based on the inclusive criteria. The participants were selected by using purposive sampling technique. Each day the investigator selected 2 primi gravid women with latent phase of labour. Lottery method was used to assign the group I for paced breathing and group II for sacral massage.

Pre intervention level of labour pain perception was assessed by using 0-10 numeric pain intensity scale at 2 cm cervical dilatation. Demonstrated paced breathing for group I participants and asked them to do it for each contraction. The investigator explained and implemented sacral massage for group II primi gravid women during each contraction. Post intervention level of pain was assessed after 4 cm cervical dilatation in both groups.

DATA ANALYSIS

Demographic variables was computed by frequency and percentage. Pre intervention level of labour pain perception was assessed by frequency and percentage. Similarly the effectiveness of paced breathing, effectiveness of sacral massage was computed by frequency and percentage, mean and standard deviation. Comparison on labour pain perception before and after interventions was analysed by paired ‘t’ test. The comparison of paced breathing versus sacral massage on labour pain perception was analyzed by independent ‘t’ test. The association between the labour pain perception and selected demographic variables was analyzed by Chisquare test.

A STUDY TO COMPARE THE EFFECTIVENESS OF PACED BREATHING VERSUS SACRAL MASSAGE ON LABOUR PAIN PERCEPTION DURING LATENT PHASE OF LABOUR AMONG PRIMI GRAVID WOMEN IN JEGANATH HOSPITAL AT DINDUGAL

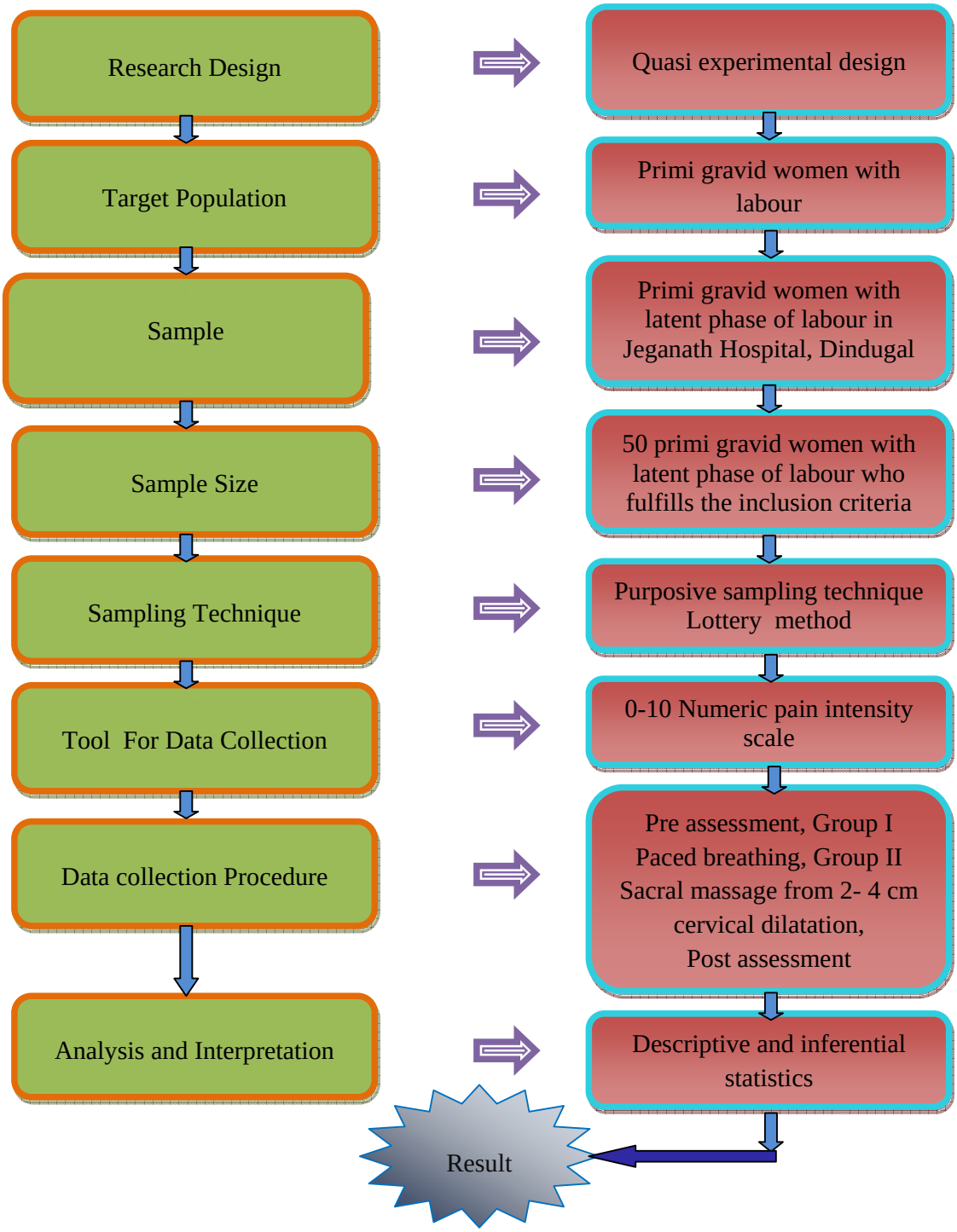

Fig. 2 : Schematic representation of research methodology adapted in this study.

DATA ANALYSIS AND INTERPRETATION

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

It is a systematic organization and synthesis of research data. In order to answer the research questions and test hypothesis. Interpretation is the process of making sense of study results and of examining their implications. Descriptive on inferential statistics was used to analysis the data. As per the objectives of the study the interpretation has been tabulated and organize as follows:

Section A: Frequency and percentage distribution of demographic variables among primi gravid women.

Section B: Assessment of level of labour pain perception during latent phase of labour among primi gravid women.

Section C: Effectiveness of paced breathing on labour pain perception during latent phase of labour among primi gravid women.

Section D: Effectiveness of sacral massage on labour pain perception during latent phase of labour among primi gravid women.

Section E: Comparison of post intervention level of labour pain perception following paced breathing versus sacral massage during latent phase of labour among primi gravid women.

Section F: Association of pre intervention and post intervention level of labour pain perception during latent phase of labour among primi gravid women with their demographic variables.

SECTION – A

Table 1 : Frequency and percentage distribution of demographic variables among primi gravid women N = 50

S.No.	Demographic Variables	Group I		Group II	
		Paced Breathing		Sacral Massage	
		Frequency	Percentage	Frequency	Percentage
1.	**Age**				
	18 -20 yrs	5	20	6	24
	21 -25 yrs	5	20	9	36
	26 -30 yrs	11	44	4	16
	31 -35 yrs	4	16	6	24
2.	**Education**				
	No formal Education	6	24	6	24
	Primary Education	6	24	5	20
	Secondary Education	6	24	10	40
	Graduation	7	28	4	16
3.	**Occupation**				
	House Wife	5	20	7	28
	Coolie	5	20	8	32
	Private Employee	10	40	7	28
	Government Employee	5	20	3	12
4.	**Monthly Income**				
	Below Rs. 2000	3	12	3	12
	Rs. 2001 – 3000	8	32	9	36
	Rs. 3001 – 4000	7	28	7	28
	Above Rs. 4000	7	28	6	24
5.	**Type of Family**				
	Nuclear Family	14	56	14	56
	Joint family	11	44	11	44
6.	**Nature of Labour**				
	Spontaneous	14	56	15	60
	Induced	11	44	10	40
7.	**Practice during Pregnancy regularly**				
	Walking	6	24	5	20
	Antenatal exercise	6	24	2	8
	House hold job	6	24	10	40
	None	7	28	8	32
8.	**Presence of family member in Labour**				
	Mother	10	40	8	32
	Husband	7	28	7	28
	Relative	4	16	5	20
	Mother-in-law	4	16	5	20

The table 1 represented that the frequency and percentage distribution of demographic variables among primi gravid women. With respect to the age, 5 (20%) from group I and 6 (24%) from group II were in the age group of 18-20 years. Similarly 5 (20%) from group I and 9 (36%) in group II were in the age group of 21-25 years. Accordingly, 11 (44%) from group I and 4 (16%) from group II between the age of 26-30 years. Rest of the 4 (16%) from group I and 6 (24%) from group II fall within the age group of 31-35 years.

In concern with education 6 (24%) primi gravid women from both the groups have no formal education. Similarly 6 (24%) from group I and 5 (20%) from group II had finished primary education. Secondary education had completed by 6 (24%) from group I and 10 (40%) from group II. Only 7 (28%) of from group I and 4 (16%) of women had finished graduation.

With respect to occupation 5 (20%) from group I and 7 (28%) from group II were housewives. Similarly 5 (20%) women from group I and 8 (32%) women from group II were belonged to coolie worker. Respectively 10 (40%) women from group I and 7 (28%) women from group II were working as a private employee. Only 5 (20%) women from group I and 3 (12%) women from group II working as a government employee.

In accordance with the monthly income, 3 (12%) primi gravid women from both the groups were earning below Rs. 2000. Only 8 (32%) from the group I and 9 (36%) from the group II were earning between Rs. 2001-3000. Similarly, 7 (28%) from both the groups have monthly income of Rs. 3001-4000. Rest of 7 (28%) from group I and 6 (24%) from group II were getting the income of above Rs. 4000.

In account with the type of family, 14 (56%) primi gravid women in both the groups were belonged to nuclear family. Similarly 11 (44%) from both the groups were in joint family. With respect to the nature of labour, 14 (56%) women from group I and 15 (60%) of women from group II had spontaneous labour. Accordingly

11 (44%) women from group I and 10 (40%) women from group II had induction of labour.

In regard with the practice during pregnancy regularly, 6 (24%) primi gravid women from group I and 5 (20%) from group II had walking regularly during pregnancy. Only 6 (24%) women from group I and 2 (8%) of women from group II had regular antenatal exercise. Household job were done by 6 (24%) from group I and 10 (40%) women from group II. At last 7 (28%) women from group I and 8 (32%) from group II had none of the practices during pregnancy.s

In concern with the presence of family member in labour, 10 (40%) primi gravid women from group I and 8 (32%) from group II were accompanied by their mother. Similarly, 7 (28%) from group I and group II were accompanied by their husband. Only 4 (16%) primi gravid women from group I and 5 (20%) from group II were accompanied by their relative. Same as 4(16%) primi gravid women from group I and 5 (20%) from group II were accompanied with their mother in labour.

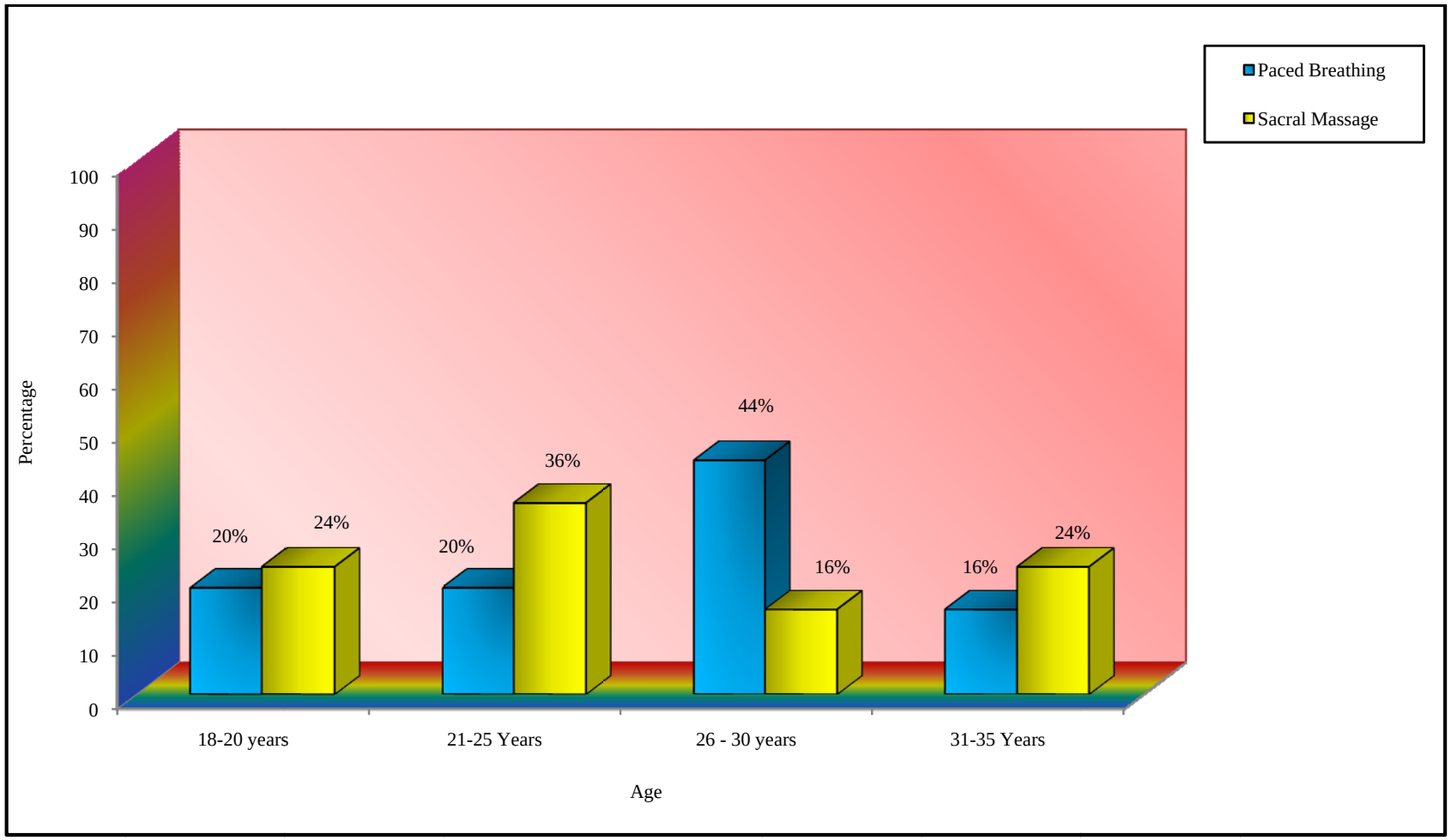

Fig. 3: Percentage distribution of age of the primi gravid women

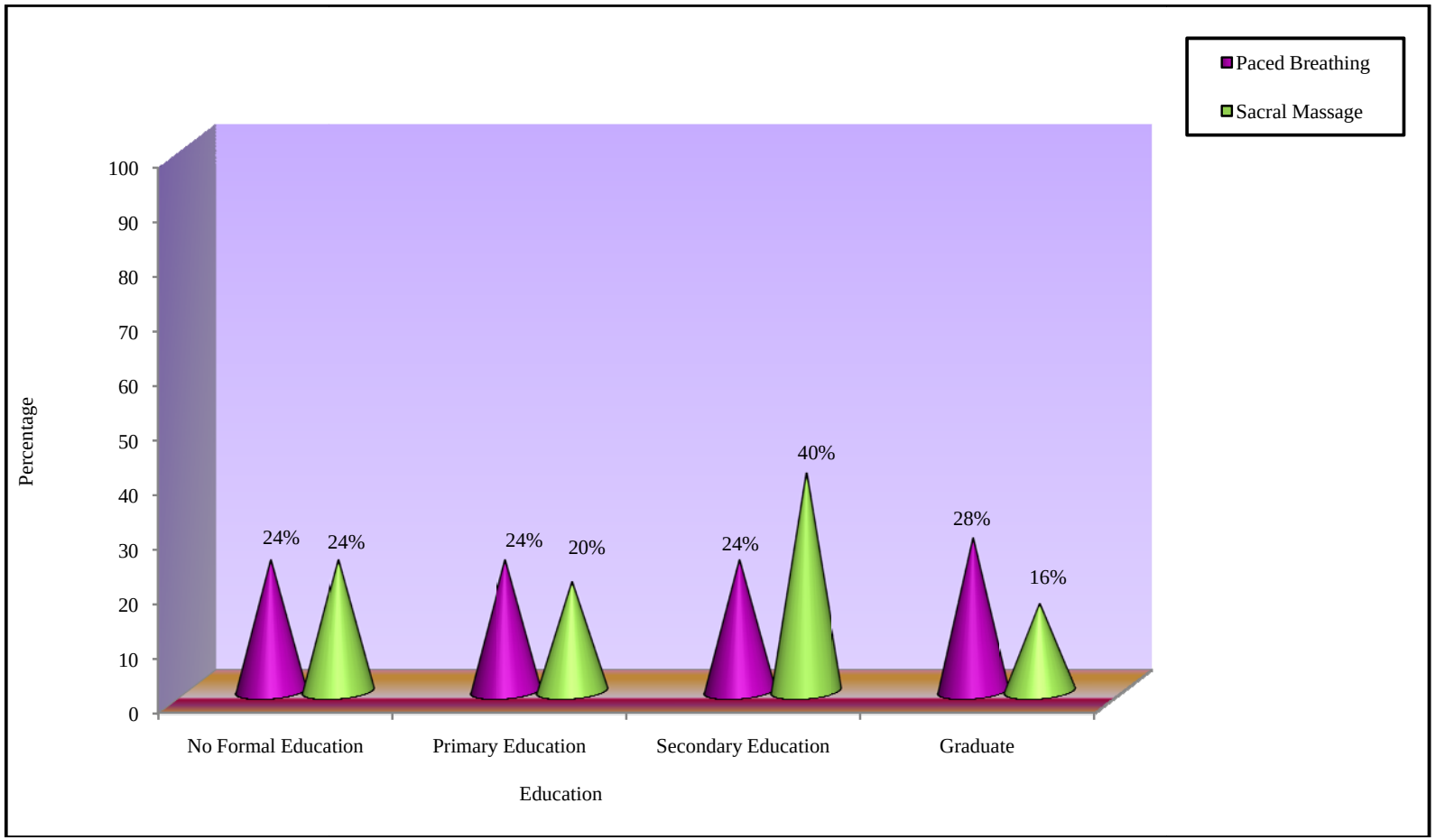

Fig. 4: Percentage distribution of Education of the primi gravid women

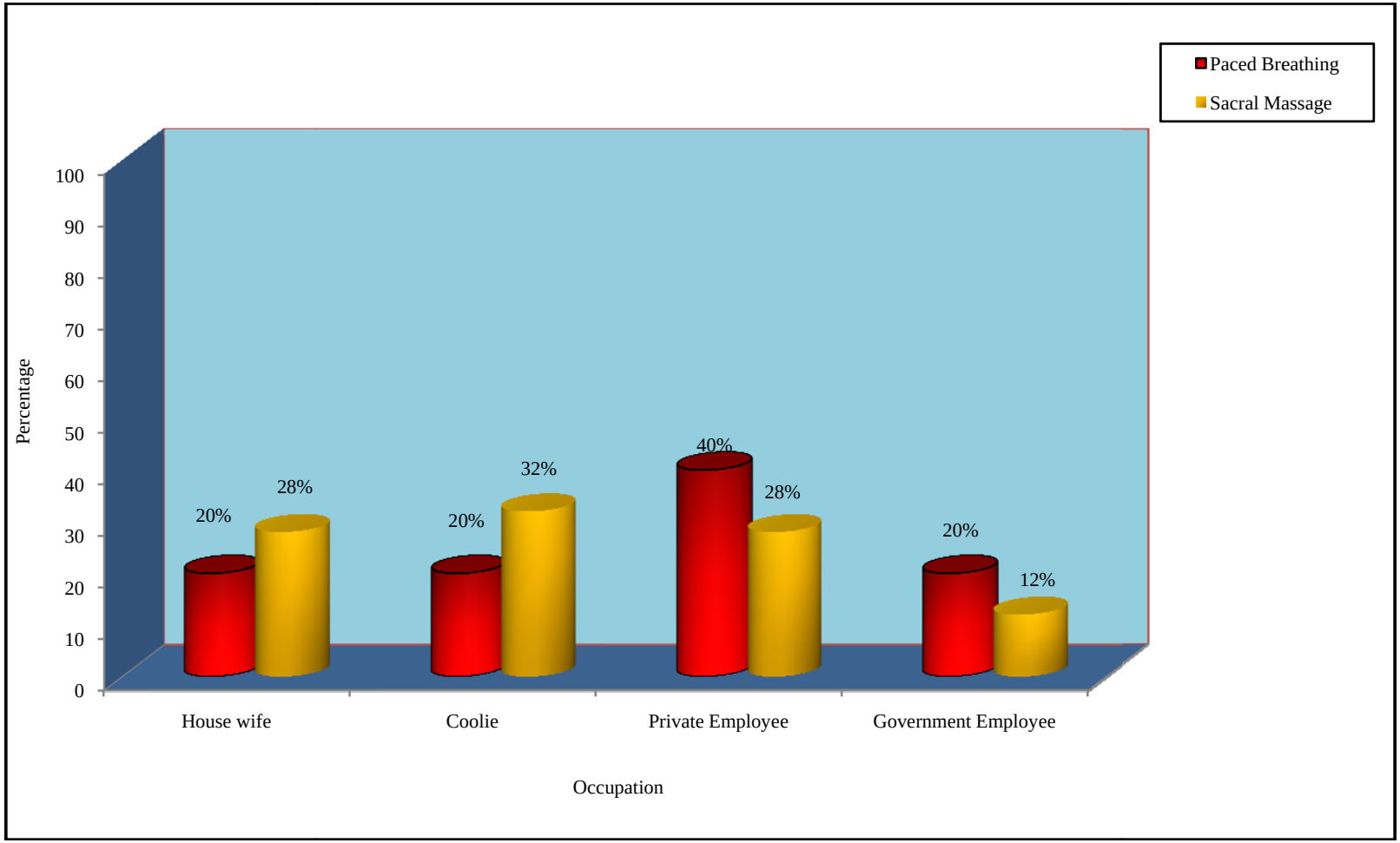

Fig 5: Percentage distribution of Occupation of the primi gravid women

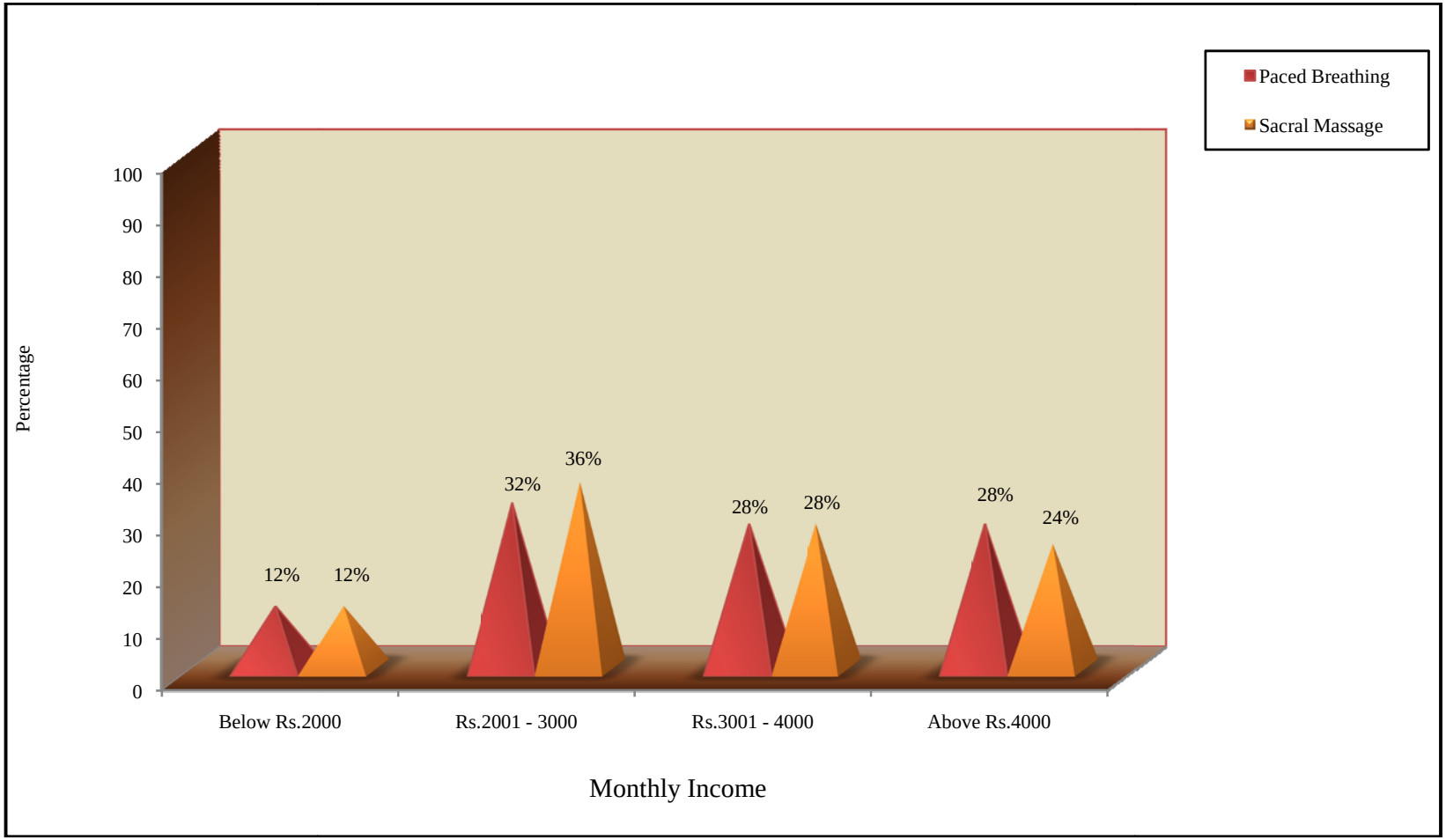

Fig. 6: Percentage distribution of Monthly Income of the primi gravid women

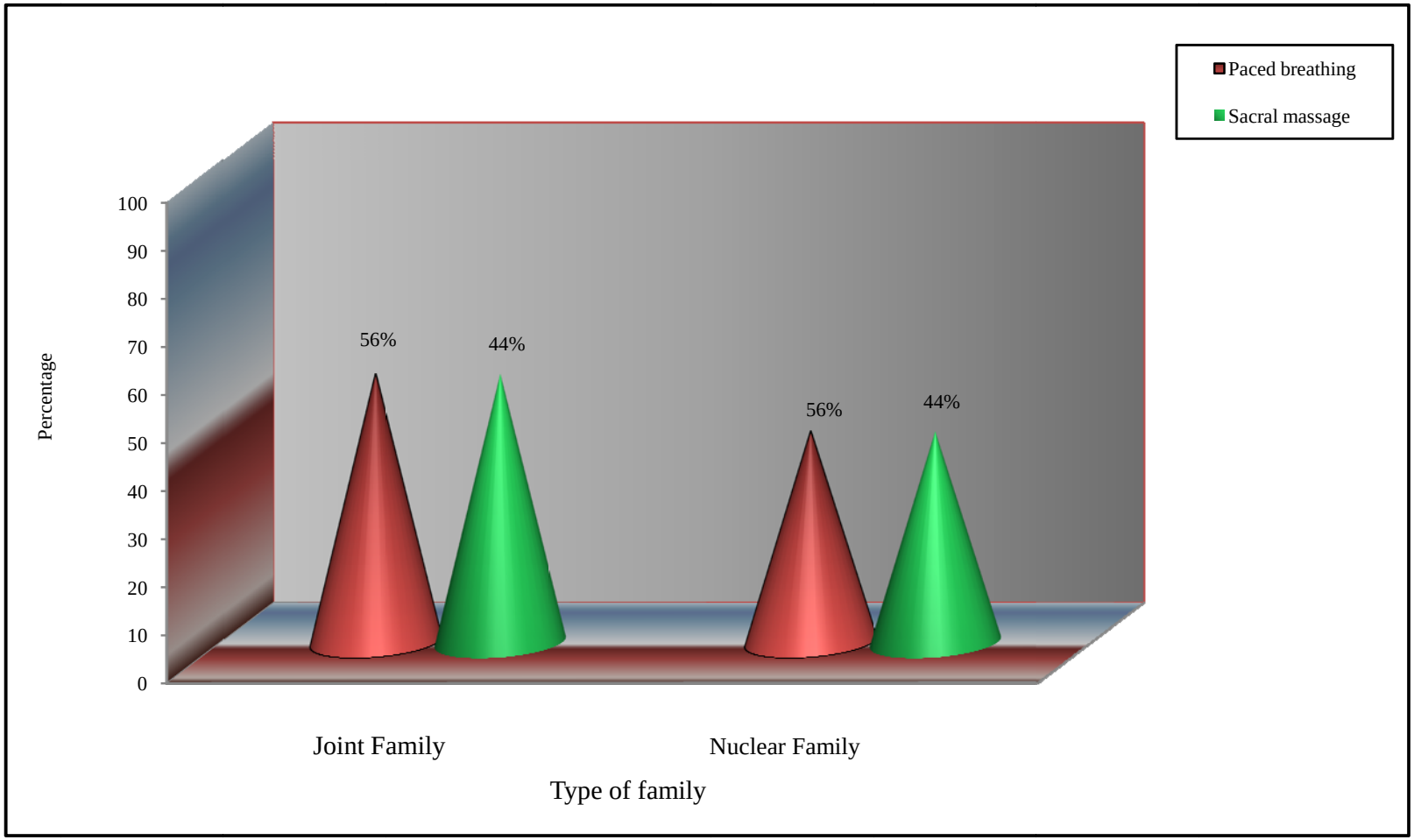

Fig 7: Percentage distribution of type of family of the primi gravid women

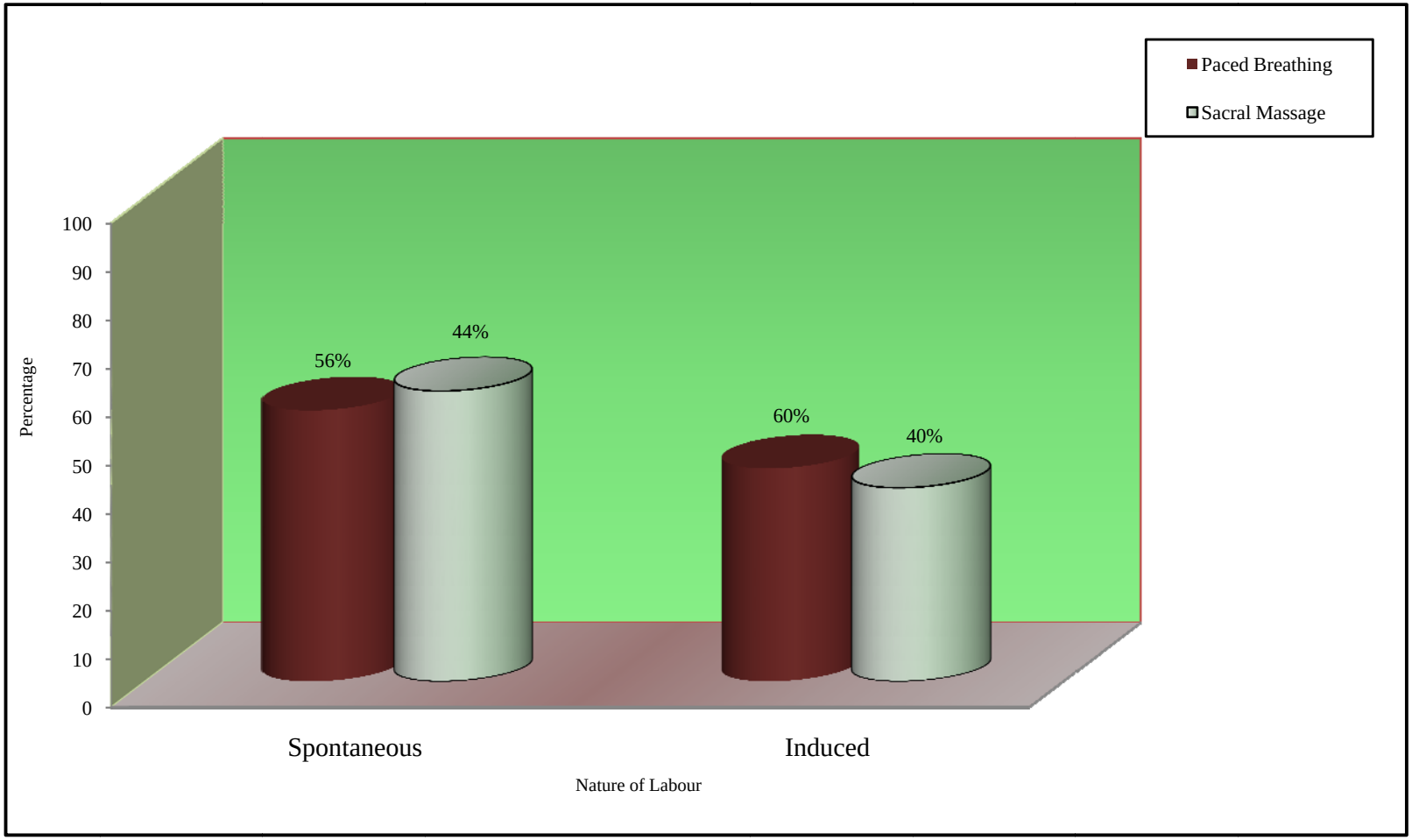

Fig. 8: Percentage distribution of nature of labour of the primi gravid women

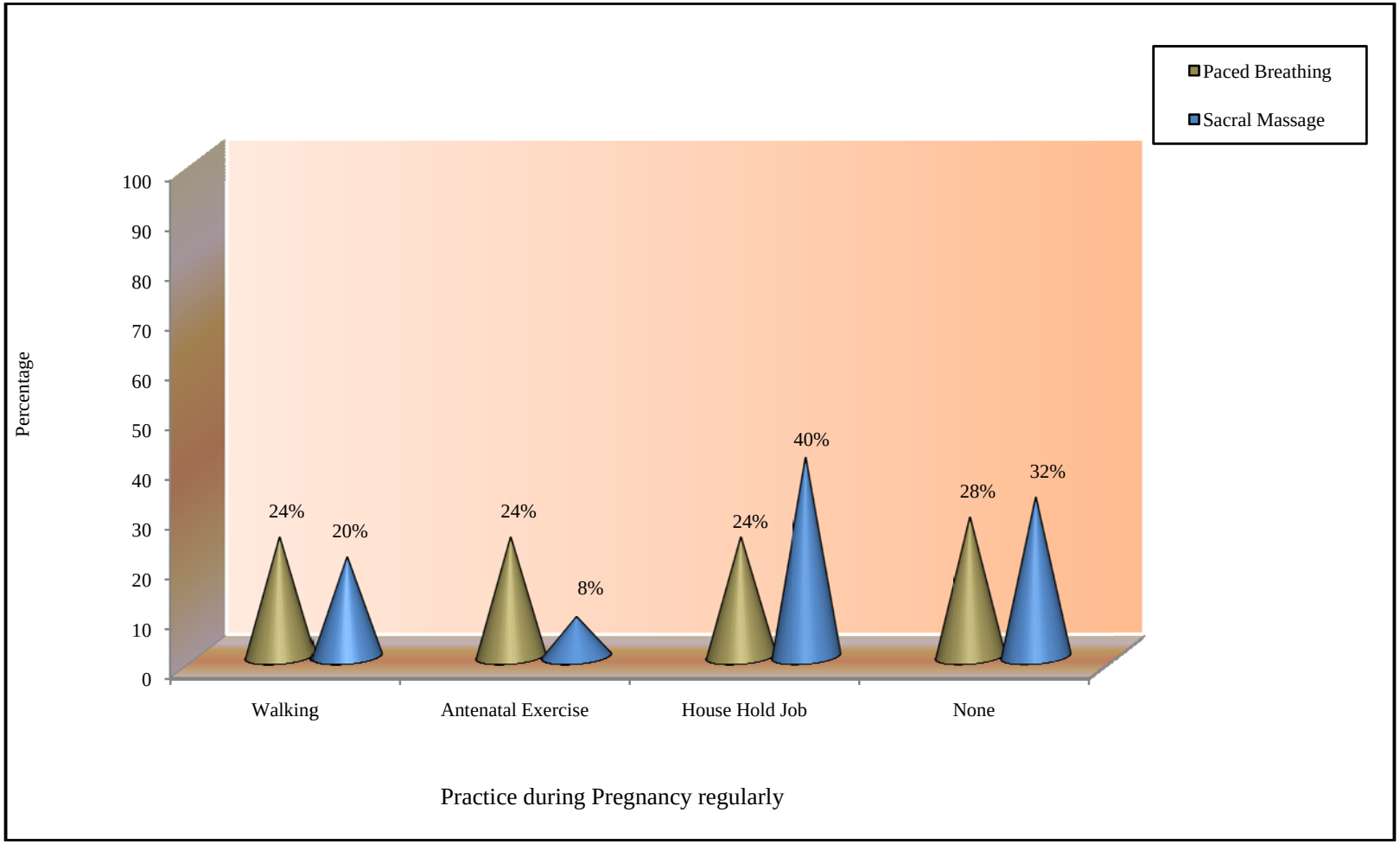

Fig. 9: Percentage distribution of practice during pregnancy regularly of the primi gravid women

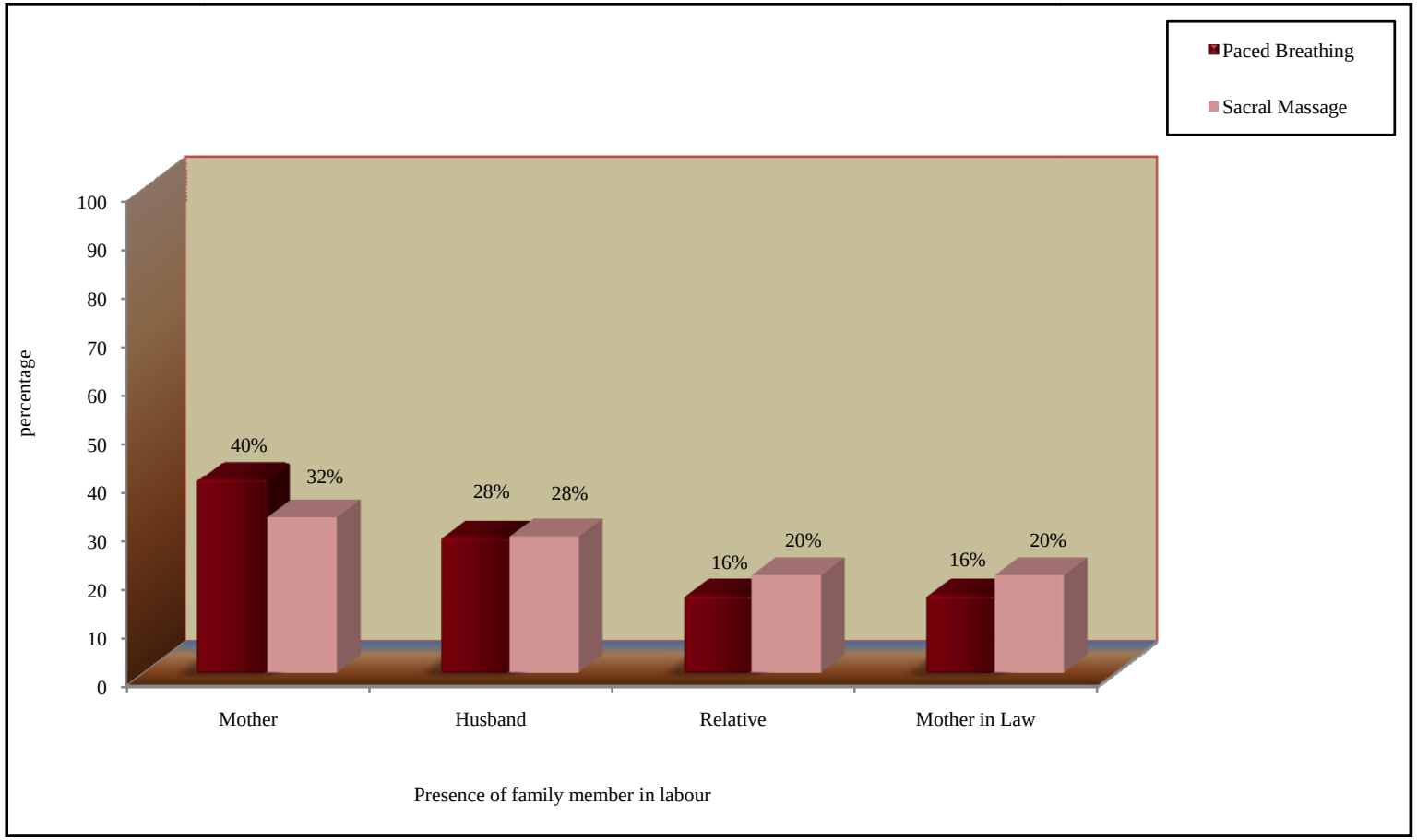

Fig. 10: Percentage distribution of presence of family member in labour of the primi gravid women

SECTION – B

Table 2 : Assessment of level of labour pain perception during latent phase of labour among primi gravid women

N = 50

Level of labour pain perception	Paced Breathing		Sacral Massage	
	Frequency	Percentage	Frequency	Percentage
Mild pain	0	0	0	0
Moderate pain	7	28	8	32
Severe pain	13	52	11	44
Worst possible pain	5	20	6	24

The table 2 represented that the assessment of level of labour pain perception during latent phase of labour among primi gravid women. Before administering paced breathing 7(28%) primi gravid women had moderate pain, 13 (52%) of them had severe pain and 5 (20%) of them had worst possible pain. Before administering sacral massage, 8 (32%) primi gravid women are had moderate pain, 11 (44%) of them had severe pain 6 (24%) of them had worst possible pain. It indicates both the groups experienced more pain during labour.

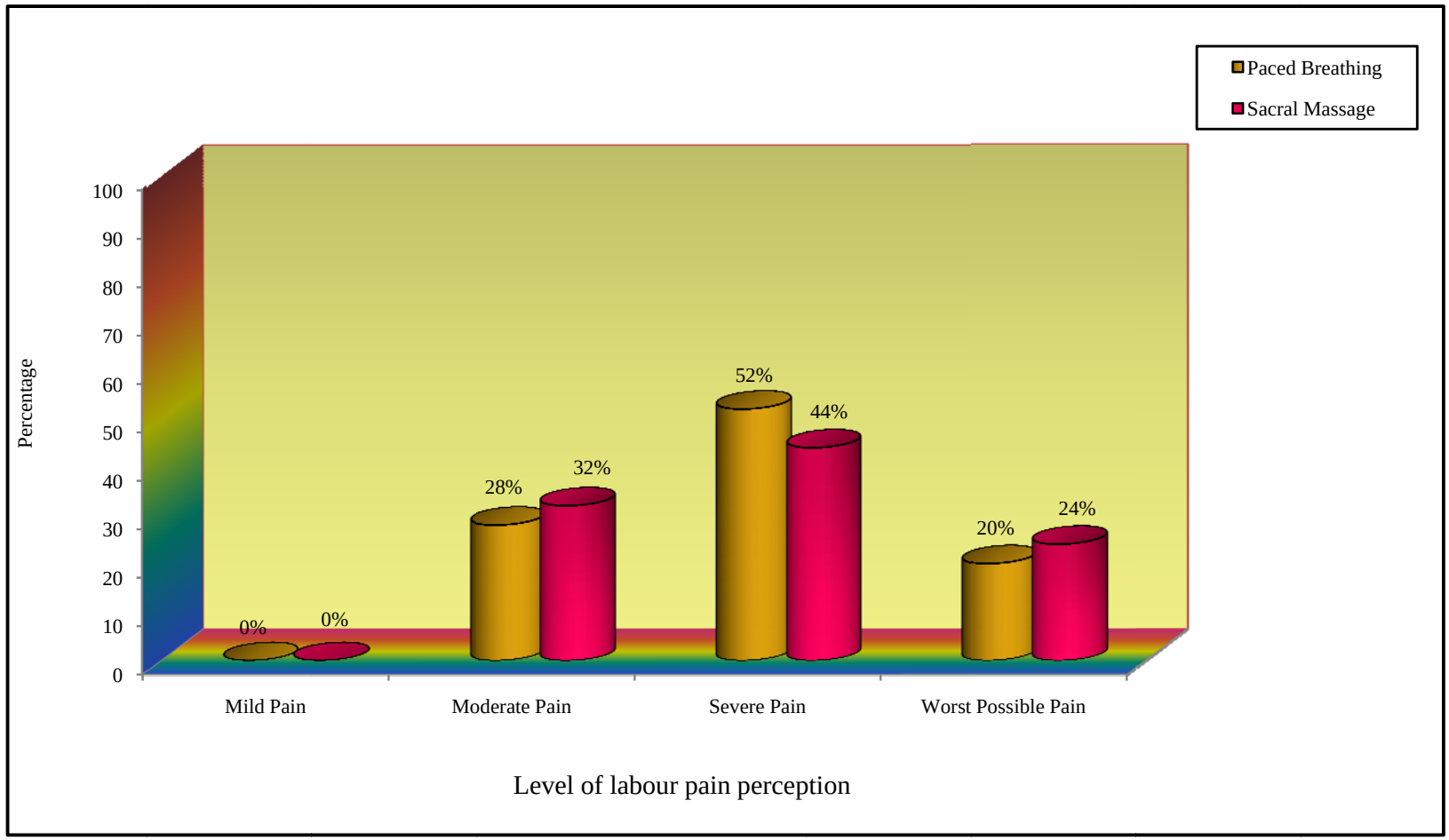

Fig. 11: Percentage distribution of level of labour pain perception during latent phase of labour among primi gravid women

SECTION - C

Table 3: Effectiveness of paced breathing on labour pain perception during latent phase of labour among primi gravid women

N=25

Level of labour pain perception	Pre intervention		Post intervention	
	Frequency	Percentage	Frequency	Percentage
Mild pain	0	0	17	68
Moderate pain	7	28	8	32
Severe pain	13	52	0	0
Worst possible pain	5	20	0	0

The table 3 showed that the effectiveness of paced breathing on labour pain perception during latent phase of labour among primi gravid women. Before administering paced breathing, 7 (28%) of primi gravid women had moderate pain, 13 (52%) of them had severe pain and 5 (20%) of them had worst possible pain. After administering paced breathing, 8 (32%) of primi gravid women are had moderate pain, 17 (68%) of them had mild pain and none of them had severe and worst possible pain. It shows that there was reduction in labour pain perception due to paced breathing.

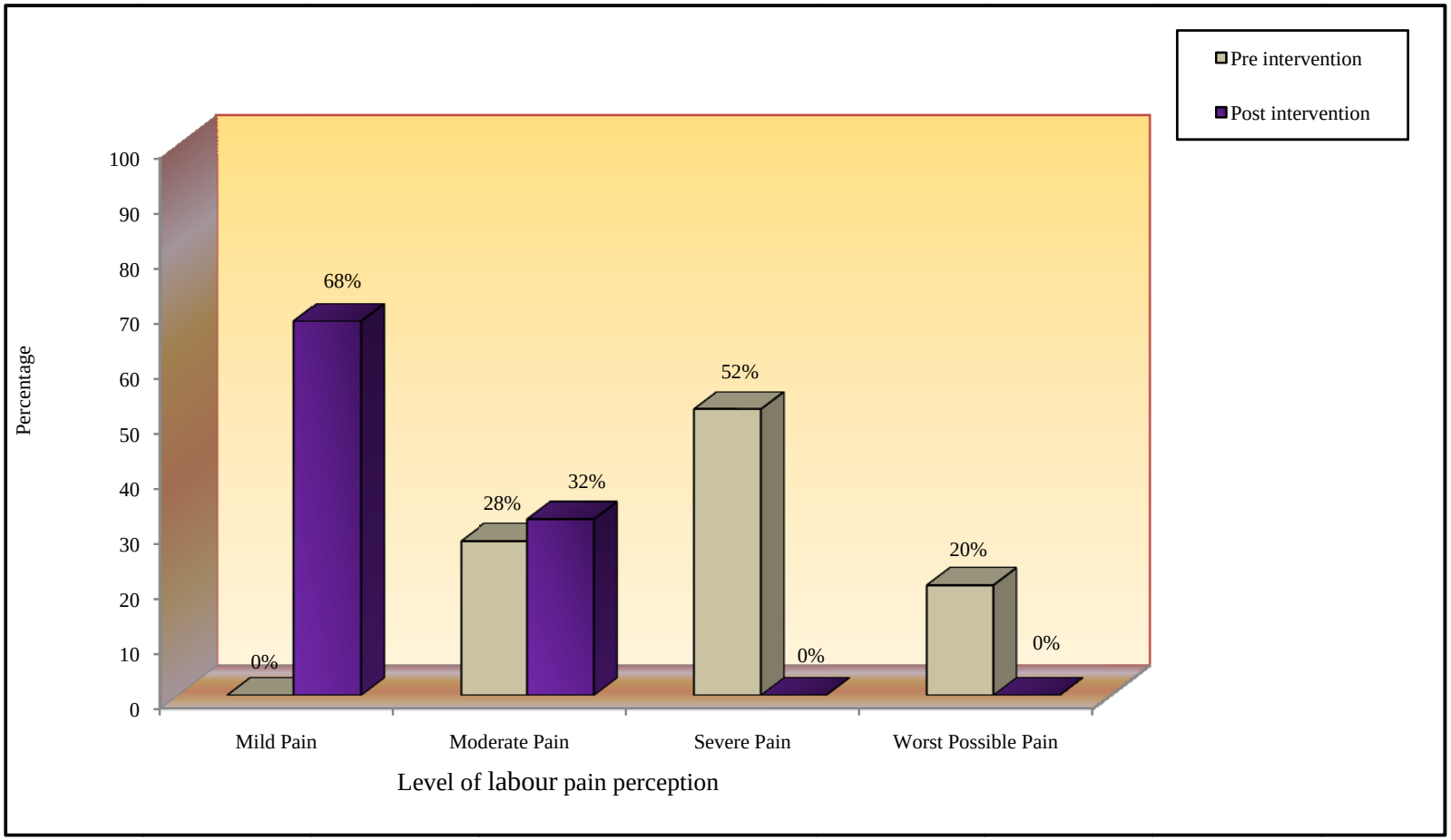

Fig. 12: Percentage distribution of level of labour pain perception during latent phase of labour before and after paced breathing among primi gravid women

Table 4 : Comparison of mean and standard deviation of labour pain perception before and after paced breathing during latent phase of labour among primi gravid women

N = 25

Assessment	Mean	Standard deviation	Paired 't' value
Pre intervention	7.20	1.58	17.87***
Post intervention	2.40	1.22	

*** $p < 0.001$ S - significant

The table 4 represented that the comparison of mean and standard deviation of labour pain perception before and after paced breathing during latent phase of labour among primi gravid women. On an average, primi gravid women had reduced pain score from 7.2 to 2.40 after the administration of paced breathing. The mean score difference was 4.8 after administration of paced breathing. The paired 't' test value of 17.87 was significant at $p<0.001$ level. It indicates that the paced breathing is effective in reduction of labour pain perception.

SECTION - D

Table 5: Effectiveness of sacral massage on labour pain perception during latent phase of labour among primi gravid women

N = 25

Level of labour pain perception	Pre intervention		Post intervention	
	Frequency	Percentage	Frequency	Percentage
Mild pain	0	0	9	36
Moderate pain	8	32	16	64
Severe pain	11	44	0	0
Worst possible	6	24	0	0

The table 5 showed that the effectiveness of sacral massage on labour pain perception during latent phase of labour among primi gravid women. Before administering sacral massage, 8 (32%) primi gravid women had moderate pain, 11 (44%) of them had severe pain and 6 (24%) of them had worst possible pain. After administration of sacral massage, 16 (64%) primi gravid women had moderate pain, 9 (36%) of them had mild pain and none of them had severe and worst possible pain. It shows that there was reduction in labour pain perception due to sacral massage.

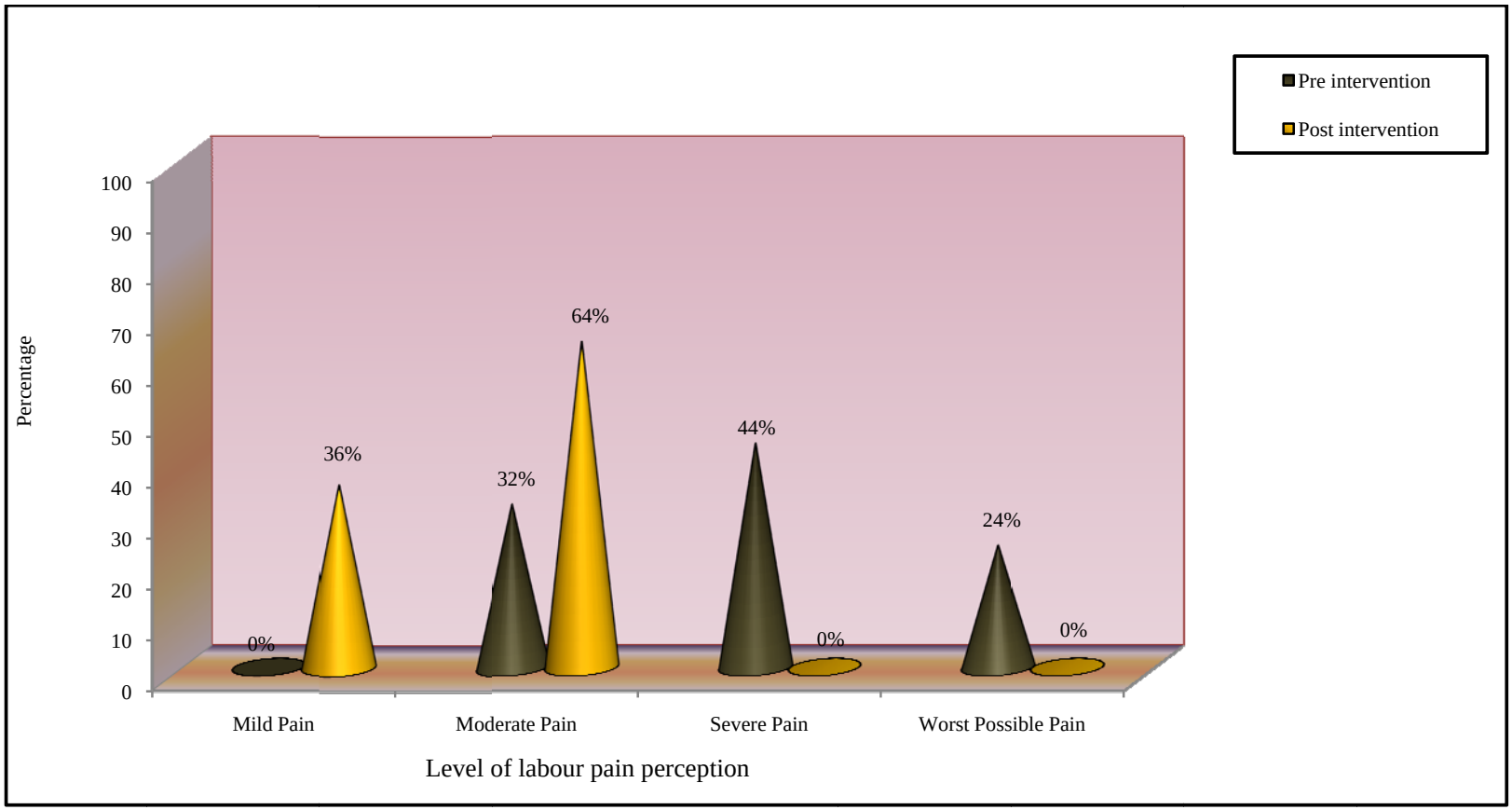

Fig. 13: Percentage distribution of level of labour pain perception during latent phase of labour before and after sacral massage among primi gravid women

Table 6 : Comparison of mean and standard deviation of labour pain perception before and after sacral massage during latent phase of labour among primi gravid women

N = 25

Assessment	Mean	Standard deviation	Paired 't' value
Pre intervention	7.24	1.42	11.64***
Post intervention	3.48	0.77	

*** $p < 0.001$ S - Significant

The table 6 showed that, the comparison of mean and standard deviation of labour pain perception before and after sacral massage during latent phase of labour among primi gravid women. On an average, primi gravid women were reduced their pain score from 7.24 to 3.48 after the administration of paced breathing. The mean score difference was 3.76 after administration of sacral massage. The paired 't' test value of 11.64 was significant at $p<0.001$ level. It indicates that the sacral massage is uesful in reduction of labour pain perception.

SECTION-E

Table 7: Comparison of post intervention level of labour pain perception paced following breathing versus sacral massage during latent phase of labour among primi gravid women

N = 50

Level of labour pain perception	Paced breathing		Sacral massage	
	Frequency	Percentage	Frequency	Percentage
Mild pain	17	68	9	36
Moderate pain	8	32	16	64
Severe pain	0	0	0	0
Worst possible pain	0	0	0	0

The table 7 represented that the Comparison of post intervention level of labour pain perception paced following breathing versus sacral massage during latent phase of labour among primi gravid women. After administration of paced breathing, 8 (32%) primi gravid women had moderate pain, 17 (68%) of them had mild pain. After administration of sacral massage 16 (64%) of primi gravid women had moderate pain, 9 (36%) of them had mild pain and none of them had severe and worst possible pain. It indicates that paced breathing was more effective than sacral massage on labour pain perception during latent phase of labour.

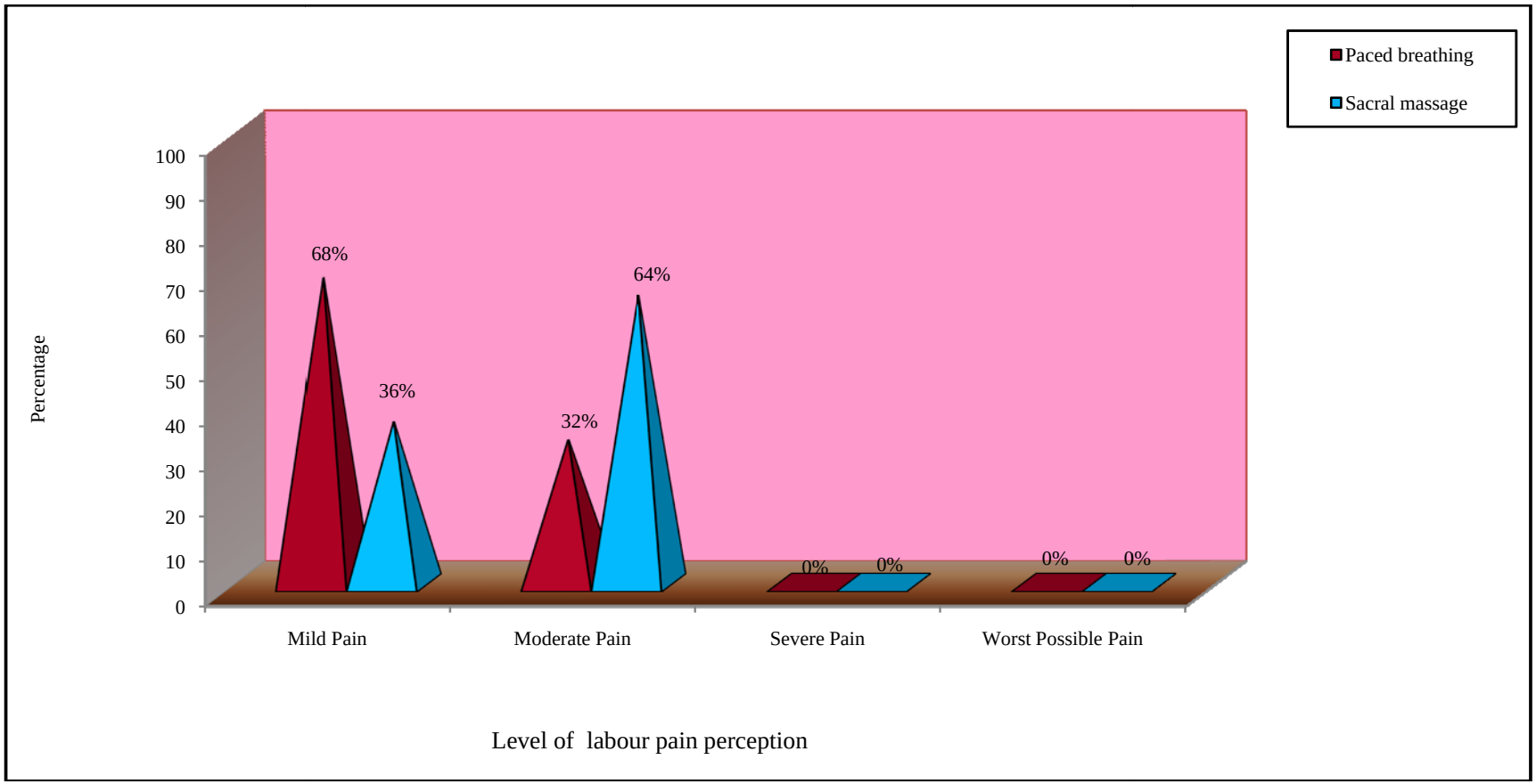

Fig. 14: Percentage distribution of post intervention level of labour pain perception following paced breathing versus sacral massage during latent phase of labour among primi gravid women

Table 8: Comparison of mean and standard deviation of labour pain perception following paced breathing versus sacral massage during latent phase of labour among primi gravid women

N = 50

S.No.	Groups	Mean	Standard deviation	Independent 't' value
1.	Paced breathing	2.40	1.22	3.74^{***}
2.	Sacral massage	3.48	0.27	

*** $p < 0.001$ S - Significant

The table 8 showed that the comparison of mean and standard deviation of labour following paced breathing versus sacral massage during latent phase of labour among primi gravid women. In post intervention, paced breathing group had 2.4 mean score sand sacral massage group had 3.48 mean score. The difference of 1.08 showed that statistically significant. The independent 't' test value was 3.74 at $p<0.001$ level. It indicates that the paced breathing was more effective than the sacral massage on labour pain perception among primi gravid women.

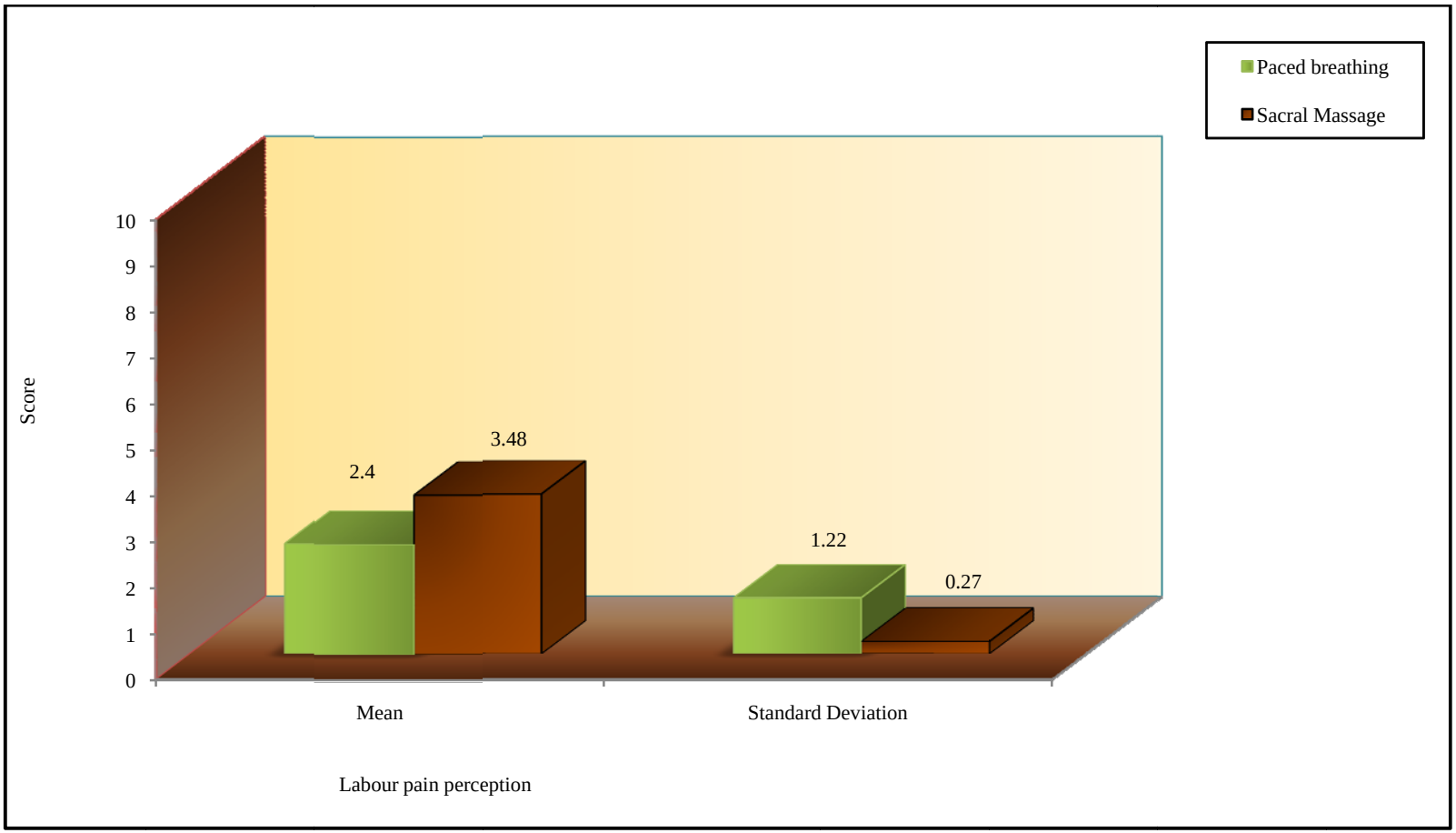

Fig. 15: Comparison of mean and standard deviation of labour pain perception following paced breathing and sacral massage during latent phase of labour among primi gravid women

SECTION – F

Table 9: Association of labour pain perception during latent phase of labour before paced breathing among primi gravid women with demographic variables **N = 50**

S.No.	Demographic Variables	Pre intervention level of labour pain perception				Chi-square χ^2
		Moderate		Severe/Worst		
		N	%	n	%	
1.	**Age**					
	≤ 25 yrs	2	20	8	80	$\chi^2 = 0.07$
	> 25 yrs	5	33.3	10	66.7	df = 1
						NS
2.	**Education**					
	No formal / Primary education	4	33.3	8	66.7	$\chi^2 = 0.02$
	Secondary Education / Graduate	3	23.1	10	76.9	df = 1
						NS
3.	**Occupation**					
	House wife	4	40	6	60.0	$\chi^2 = 0.41$
	Private / govt. employee / Coolie	3	20	12	80	df = 1
						NS
4.	**Monthly Income**					
	Below Rs. 3000	5	45.5	6	54.5	$\chi^2 = 1.62$
	Above Rs. 3000	2	14.3	12	85.7	df = 1
						NS
5.	**Type of Family**					
	Nuclear Family	3	21.4	11	78.6	$\chi^2 = 0.14$
	Joint Family	4	36.4	7	63.6	df = 1
						NS
6.	**Nature of Labour**					
	Spontaneous	5	35.7	9	64.3	$\chi^2 = 0.27$
	Induced	2	18.2	9	81.8	df = 1
						NS
7.	**Practice during Pregnancy regularly**					
	Walking / An exercise/ Household job	3	16.7	15	83.3	$\chi^2 = 2.33$
	None	4	57.1	3	42.9	df = 1
						NS
8.	**Presence of family member in Labour**					
	Mother /husband	3	17.6	14	82.4	$\chi^2 = 1.45$
	Relative / Mother- in-law	4	50	4	50	df = 1
						NS

NS - Non significant

The table 9 showed that the association of labour pain perception during latent phase of labour before paced breathing among primi gravid women with their demographic variables. None of the demographic variables are significantly associated with their pre intervention level of labour pain perception.

Table 10: Association of labour pain perception during latent phase of labour before sacral massage among primi gravid women with their demographic variables N = 50

S.No.	Demographic Variables	Pre intervention level of labour pain perception				Chi-square χ^2
		Moderate		Severe/Worst		
		n	%	n	%	
1.	**Age**					
	≤ 25 yrs	5	33.3	10	66.7	χ^2 =0.03
	> 25 yrs	3	30	7	70	df = 1
						NS
2.	**Education**					
	No formal / Primary education	2	18.2	9	81.8	χ^2=0.77
	Secondary Education / Graduate	6	42.9	8	57.1	df = 1
						NS
3.	**Occupation**					
	House wife	3	20	12	80	χ^2=1.29
	Private / govt. employee / Coolie	5	50	5	50	df = 1
						NS
4.	**Monthly Income**					
	Below Rs. 3000	3	25	9	75	χ^2 =0.08
	Above Rs. 3000	5	38.5	8	61.5	df = 1
						NS
5.	**Type of Family**					
	Nuclear Family	4	28.6	10	71.4	χ^2 =0.17
	Joint Family	4	36.4	7	63.6	df = 1
						NS
6.	**Nature of Labour**					
	Spontaneous	5	29.4	12	70.6	χ^2=0.16
	Induced	3	37.5	5	62.5	df = 1
						NS
7.	**Practice during Pregnancy regularly**					
	Walking / An exercise/ Household job	6	35.3	11	64.7	χ^2=0.02
	None	2	25	6	75	df= 1
						NS
8.	**Presence of family member in Labour**					
	Mother / husband	5	33.3	10	66.7	χ^2=0.03
	Relative / Mother-in-law	3	30	7	17	df=1
						NS

N S – Non significant

The table 10 showed that the association of labour pain perception during latent phase of labour before sacral massage among primi gravid women with their demographic variables. None of the demographic variables are significantly associated with their pre intervention level of labour pain perception.

Table 11 : Association of labour pain perception during latent phase of labour after paced breathing among primi gravid women with their demographic variables

N = 25

S.No.	Demographic Variables	Post intervention level of labour pain perception				Chi-square χ^2
		Mild		Moderate		
		n	%	n	%	
1.	**Age**					
	≤ 25 yrs	6	60.0	4	40.0	χ^2 =0.07
	>25 yrs	11	7.3	4	26.7	df = 1
						NS
2.	**Education**					
	No formal / Primary education	10	83.3	2	16.7	χ^2 =1.32
	Secondary Education / Graduate	7	53.8	6	46.2	df = 1
						NS
3.	**Occupation**					
	House wife	4	40.0	6	60.0	**χ^2 =4.05**
	Private / govt. employee / Coolie	13	86.7	2	13.3	**df = 1**
						S*
4.	**Monthly Income**					
	Below Rs. 3000	9	81.8	2	18.2	χ^2=0.77
	Above Rs. 3000	8	57.1	6	42.9	df= 1
						NS
5.	**Type of Family**					
	Nuclear Family	10	71.4	4	28.6	χ^2 =0.17
	Joint Family	7	63.6	4	36.4	df= 1
						NS
6.	**Nature of Labour**					
	Spontaneous	12	85.7	2	14.3	**χ^2 =4.59**
	Induced	5	45.4	6	54.6	**df = 1**
						S*
7.	**Practice during Pregnancy regularly**					
	Walking / An exercise / Household job	15	80.0	3	20.0	**χ^2 =4.46** **df = 1**
	None	2	28.6	5	71.4	**S***
8.	**Presence of family member in Labour**					
	Mother / husband	12	70.6	5	29.4	χ^2=0.16
	Relative / Mother-in-law	5	62.5	3	37.5	df= 1
						NS

*p<0.05, S - Significant, NS - Non significant

The table 11 represented that the association of labour pain perception during latent phase of labour after paced breathing among primi gravid women with their demographic variables. The chi-square value of 4.05 revealed that there was a significant association between an occupation and post intervention level of labour pain perception after paced breathing at the level of $p<0.05$. The chi-square value of 4.59 revealed that there was a significant association between nature of labour and post intervention level of labour pain perception after paced breathing at the level of $p<0.05$.

The chi-square value of 4.46 revealed that there was a significant association between practice during pregnancy regularly and post intervention level of labour pain perception after paced breathing at the level of $p<0.05$. There was no significant association with other demographic variables such as age, education, income, type of family and practice during pregnancy with post intervention level of labour pain perception

Table 12: Association of labour pain perception during latent phase of labour after sacral massage among primi gravid women with their demographic variables N = 25

S.No.	Demographic Variables	Post intervention level of labour pain perception				Chi-square χ^2
		Mild		Moderate		
		n	%	n	%	
1.	**Age**					
	≤ 25 yrs	5	33.3	10	66.7	χ^2 =0.11
	> 25 yrs	4	40.0	6	60.0	df = 1 NS
2.	**Education**					
	No formal / Primary education	3	27.3	8	72.7	χ^2=0.14
	Secondary Education / Graduate	6	42.9	8	57.1	df= 1 NS
3.	**Occupation**					
	House wife	3	20.0	12	80.0	**χ^2=4.00**
	Private / govt. employee / Coolie	6	60.0	4	40.0	**df= 1 S***
4.	**Monthly Income**					
	Below Rs. 3000	4	33.3	8	66.7	χ^2=0.07
	Above Rs. 3000	5	38.5	8	61.5	df= 1 NS
5.	**Type of Family**					
	Nuclear Family	5	35.7	9	64.3	χ^2 = 0.02
	Joint Family	4	36.4	7	63.6	df = 1 NS
6.	**Nature of Labour**					
	Spontaneous	9	52.9	8	47.1	**χ^2 =4.52**
	Induced	0	0.0	8	100	**df = 1 S***
7.	**Practice during Pregnancy regularly**					
	Walking / An exercise/ Household job	6	35.3	11	64.7	χ^2 =0.02 df = 1
	None	3	37.5	5	62.5	NS
8.	**Presence of family member in Labour**					
	Mother / husband	6	40.0	9	60.0	χ^2 =0.26 df = 1
	Relative/Mother-in-law	3	30.0	7	70.0	NS

*p<0.05 level, NS = Not significant

The table 12 represented that the association of labour pain perception during latent phase of labour after sacral massage among primi gravid women with their demographic variables. The chi-square value of 4.00 revealed that there was a significant association between an occupation and post intervention level of labour pain perception after sacral massage at the level of $p<0.05$.

The chi-square value of 4.52 revealed that there was a significant association between nature of labour and post intervention level of labour pain perception after sacral massage at the level of $p<0.05$.There was no significant association with other demographic variables such as age, education, income, type of family, practice during pregnancy and presence of family member in labour.

DISCUSSION

CHAPTER – V

DISCUSSION

This chapter describes the result with respect to the objectives of the study and also compares the similar study with the present study findings. This study aimed to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women in Jeganath hospital at Dindugal, 2011-2012.

The formulated hypothesis of the study was there is no significant difference between paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women.

The conceptual frame work for the study was based on the J.W. Kenny's open system model. It provided comprehensive frame work for achieving the objectives of the study. According to Kenny open system model an environment indicates hospital. Input refers to demonstration of 2 interventions like paced breathing, sacral massage for Group I and Group II respectively. Throughout is the mechanism by which the labour pain perception was reduced. Output refers to post intervention evaluation of labour pain perception.

The researcher adopted Quasi experimental design for this study. The study was conducted in Jeganath hospital at Dindugal. The level of labour pain perception was assessed by 0-10 numeric pain intensity scale. A total of 50 primi gravid women were selected using purposive sampling technique. Two groups were divided as group I and group II randomly. After the pre intervention group I primi gravid women were demonstrated about paced breathing and group II primi gravid women were given sacral massage from 2-4 cm cervical dilatation. Post intervention level of labour pain perception was assessed by using the 0-10 numeric pain intensity scale.

Primi gravid women between the age group of 18 to 35 years were selected. Those who were admitted in labour ward at Jeganath hospital during latent phase of labour was included in this study. With respect to the age, majority of the women

5 (20%), 9 (36%) were from the age between 21-25 years in both the groups respectively. Since the ideal age for marriage is 21-25 years. In concern with educational status, most of the women 6 (24%), 10 (40%) were educated up to secondary education in both the groups respectively. In accordance with an occupation many of the women 10 (40%), 7 (28%) were working as a private employee in both group I and II. Many of the women 8 (36%), 9 (28%) were getting the monthly income of Rs. 3001-4000 in both the group I and group II.

With respect to the type of family 14 (56%) women in both the groups were living in nuclear family. In account with nature of labour 14 (56%), 15 (60%) of primi gravid women had a spontaneous labour in both the groups respectively. In this centre they are giving more importance to spontaneous labour rather than induction. In regard with the practice during pregnancy regularly many of the women 6 (24%), 10 (40%) were doing only their household job which shows that the need of awareness about antenatal exercises during pregnancy. In concern with the presence of family member in labour 10 (40%) primi gravid women from group I and 8 (32%) from group II were mostly accompanied by their mother.

The first objective was to assess the level of labour pain perception during latent phase of labour among primi gravid women

For both the groups pre intervention level of labour pain perception was assessed by 0-10 numeric pain intensity scale at 2 cm cervical dilatation. Before administering paced breathing 7 (28%) primi gravid women had moderate pain, 13 (52%) them had severe pain and 5 (20%) of them had worst possible pain. Before administering sacral massage 8(32%) of women had moderate pain, 11 (44%) of them had severe pain and 6 (24%) of them had worst possible pain. None of them experienced mild pain during their labour.

The study findings are correlated with the result of Tzeng. Y (2008) study. He had conducted a correlational study on low back pain during labour. Lowback pain was measured during latent, early and active phase of labour with ninety three low risk women in labour. The mean scores were 36.66 to 76.20. The study concluded that 46 (75.3%) of the participants suffered from episodes of low back pain during labour.

The second objective was to evaluate the effectiveness of paced breathing on labour pain perception during latent phase of labour among primi gravid women

The group I with 25 primi gravid women have been given paced breathing from 2-4 cm cervical dilatation. After administering paced breathing 8 (32%) primi gravid women had moderate pain, 17 (68%) of them had mild pain and none of them had severe and worst possible pain. On an average, primi gravid women had reduced pain score from 7.2 to 2.40 after the administration of paced breathing. The mean score difference was 4.8 after administration of paced breathing. The paired 't' test value was 17.87 was significant at $p<0.001$ level. It indicates that the paced breathing is effective in reduction of labour pain perception.

Nabb.M, (2006) done a study to investigate a programme of controlled breathing from 36 weeks of pregnancy until birth in St.George hospital at London. Pain score was measured by visual analogue scale at the end of first stage of labour. The result of the study showed that reduction of labour pain level from 8.5 to 7.5 during labour due to controlled breathing. This study findings is comparable with the present study results.

The third objective was to evaluate the effectiveness of sacral massage on labour pain perception during latent phase of labour among primi gravid women

The group II with primi gravid women have been given sacral massage from 2-4 cm cervical dilatation. After administering sacral massage 16 (64%) primi gravid women had moderate pain, 9 (36%) of them had mild pain and none of them had severe and worst possible pain. On an average, primi gravid women were reduced

their pain score from 7.24 to 3.48 after the administration of paced breathing. The mean score difference was 3.76 after administration of sacral massage. The paired 't'test value was 11.64 was significant at $p<0.001$ level. It indicates that the sacral massage is uesful in reduction of labour pain perception.

The present study findings supported by Chang. M (2006) study. He had done an experimental study on effectiveness of massage on labour pain. Massage was given during each contraction. MC Gill pain questionnaire was used to assess the pain at 3 phases of cervical dilatation. The study supported that massage was effective in reduction of labour pain perception during latent, active and transient phase of labour.

The fourth objective was to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women

Comparison of effectiveness of paced breathing versus sacral massage on labour pain perception was assessed in both the group respectively. After administering paced breathing 8 (32%) primi gravid women had moderate pain, 17 (68%) of them had mild pain. After administering sacral massage 16 (64%) primi gravid women had moderate pain, 9 (36%) of them had mild pain.

In post intervention, paced breathing group had 2.4 mean score and sacral massage group had 3.48 mean score. The difference of 1.08 showed that statistically significant. The independent 't' value was 3.74 at $p<0.001$ level. It indicates that the paced breathing was more effective than the sacral massage on labour pain perception among primi gravid women.

During the study period the investigator and that most of the primi gravid women felt that more satisfaction on paced breathing than sacral massage. Paced breathing group felt that it was useful in reduction of labour pain perception. It is one of the nonpharmacological method of pain relief and gives relaxation to the mind.

The fifth objective was to assess pre intervention and post intervention level of labour pain perception following paced breathing versus sacral massage among primi gravid women with their demographic variables

There was no significant association between the pre assessment level of labour pain perception and selected demographic variables in both the groups respectively. The chi-square value of 4.05 revealed that there was a significant association between an occupation and post intervention level of labour pain perception after paced breathing at the level of $p<0.05$. The chi-square value of 4.59 revealed that there was a significant association between nature of labour and post intervention level of labour pain perception after paced breathing at the level of $p<0.05$. The chi-square value of 4.46 revealed that there was a significant association between practice during pregnancy regularly and post intervention level of labour pain perception after paced breathing at the level of $p<0.05$.

The chi-square value of 4.00 revealed that there was a significant association between an occupation and post intervention level of labour pain perception after sacral massage at the level of $p<0.05$. The chi-square value of 4.52 revealed that there was a significant association between nature of labour and post intervention level of labour pain perception after sacral massage at the level of $p<0.05$. There was no significant association between other demographic variables like age, education, income, type of family and practice during pregnancy, and post intervention level of labour pain perception in both the groups respectively.

The study findings concluded that as per the statistical difference found in independent 't' test at the level of $p<0.01$ the study reported that there was significant difference between paced breathing and sacral massage on labour pain perception during latent phase of labour among primi gravid women. Thus the null hypothesis was rejected.

SUMMARY, CONCLUSION, NURSING IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

CHAPTER – VI

SUMMARY, CONCLUSION, NURSING IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter gives a brief account of the present study it consist of four sections. In the first two sections, the summary and the implications for nursing practice are presented. In the last two sections, the recommendations for further research and conclusion are presented. The present study was intended to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women.

SUMMARY

Pain is an individual subjective, sensory experience. Physiological, psychological, emotional and environmental factors influences the way a person perceives and responds a pain. A woman's response to labour pain is influenced by all the above factors to include her confidence in her ability to cope with labour.

The investigator undertook the present study to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women during latent phase of labour in Jeganath hospital at Dindugal.

The objectives of the study were,

6. To assess the level of labour pain perception during latent phase of labour among primi gravid women.

7. To evaluate the effectiveness of paced breathing on labour pain perception during latent phase of labour among primi gravid women.

8. To evaluate the effectiveness of sacral massage on labour pain perception during latent phase of labour among primi gravid women.

9. To compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women.

10. To associate the pre intervention and post intervention level of labour pain perception following paced breathing versus sacral massage among primi gravid women with their demographic variables.

The focus of the study was to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women. The formulated hypothesis of the study was that there was no significant difference between paced breathing versus sacral massage on labour pain perception during latent phase of labour. Review of literature facilitated the investigator to collect the relevant information of facts to support the study, select problems, design the methodology, for conceptual frame work and to develop tools.

The conceptual frame work for the study was based on the J.W. Kenny open system model. It provided comprehensive frame work for achieving the objectives of the study. According to Kenny's open system model an environment indicates hospital. Input refers to demonstration of 2 interventions like paced breathing, sacral massage for Group I and Group II respectively. Throughout is the mechanism by which the labour pain perception was reduced. Output refers to post intervention evaluation of labour pain perception.

The Quasi experimental design was used to achieve the objectives of the study. The present study was conducted at Jeganath hospital at Dindugal with the sample size of 50 primi gravid women who fulfilled the inclusion criteria using purposive sampling technique. The investigator used demographic variables and 0-10 numeric pain intensity scale for data collection. Content validity of the tool was obtained from nursing and medical experts. The reliability of the tool was checked through pilot study by inter rater method and finalized tools.

With respect to the age, majority of the women 5 (20%), and 9 (36%) were from the age group of 21-25 years in both the groups respectively. The ideal age for marriage is 21-25 years. In concern with educational status, most of the women 6 (24%), 10 (40%) were educated up to secondary education respectively in both the groups. In accordance with occupation, many of the women 10 (40%), and 7 (28%) were working as a private employee in the both the group I and group II. Many of the women 8 (32%), and 9 (36%) were getting the monthly income of Rs. 3001-4000 in both the group I and group II.

With respect to the type of family 14 (56%) women in both the groups were living in nuclear family. In account with nature of labour, 14 (56%), and 15 (60%) primi gravid women had a spontaneous labour rather than induction in group I and group II. In this centre they are giving more importance to spontaneous labour. In regard with the practice during pregnancy regularly, many of the women 6 (24%), 10 (40%) were doing only their household job which shows that the need of awareness about antenatal exercises during pregnancy. In concern with the presence of family member in labour 10 (40%) primi gravid women from group I and 8 (32%) from group II were mostly accompanied by their mother.

The findings of the study reveals that after administration of paced breathing 8 (32%) primi gravid women had moderate pain, 17 (68%) of them had mild pain. After administration of sacral massage 16 (64%) primi gravid women had moderate pain, 9 (36%) of them had mild pain. In post intervention, paced breathing group had 2.4 mean score and sacral massage group had 3.48 mean score. The difference of 1.08 showed that statistically significant. The independent ‘t’ test value was 3.74 at $p<0.001$ level. It indicates that the paced breathing was more effective than the sacral massage on labour pain perception among primi gravid women.

CONCLUSION

The study result showed that paced breathing was more effective than sacral massage in labour pain perception during latent phase of labour. Both the interventions are effective during latent phase of labour. Comparison of mean and standard deviation had revealed that there was a significant difference between the paced breathing and sacral massage. There was a significant association between post intervention level of labour pain perception and an occupation, nature of labour, presence of family member in labour. Therefore the investigator felt that, more importance should be given to assess the labour pain experienced by the primi gravid women and measures should be taken seriously in order to reduce labour pain.

NURSING IMPLICATIONS

The findings of the study shows that most of the women who had paced breathing felt more comfort and satisfaction on reduction of labour pain perception. There was a significant difference between paced breathing and sacral massage on labour pain perception during latent phase of labour among primi gravid women. So that paced breathing should be implemented in our nursing care for women with labour.

Nursing practice

The midwives have a vital role in enabling safe and effective reduction of labour pain perception through the use of paced breathing. This can be facilitated by motivating the nurse midwives to learn about accurate assessment of labour pain with the use of appropriate pain scales. Understanding the importance of paced breathing as a non pharmacological therapy in the field of obstetrics. Teaching primi gravid women about the benefits of paced breathing on reduction of labour pain perception and to promote the use of this technique to minimize the requirement of analgesics.

Nursing education

The student nurse should learn about the importance of paced breathing as a nonpharmacological therapy as an independent nursing practice. Educating the nursing students about the importance and significance of paced breathing on labour pain perception. The student nurse should have adequate practice to implement this intervention to women with labour. For that health care service should provide adequate learning experience to understand the benefits of paced breathing and reduction of labour pain perception. Educators can encourage nurse midwives to bring out innovative and creative ideas pertaining to effective and safe management of labour pain. This student should encourage for the effective utilization of research based practice.

Nursing administration

In administration level paced breathing should be implemented in our nursing practice. In nurse administrator should provide standard protocol for paced breathing to improve the standard of nursing care. Nurse administrator can arrange for a nurses awareness programs regarding the effectiveness of paced breathing in reduction of labour pain in the concerned department. At administration level the nurse should motivate the health care personal to implement the nursing practice as an evidence based practice to improve the quality of nursing care.

Nursing research

Nurse researches can promote more research on paced breathing for reduction of labour pain. As evident from the review of literature, more research needs to be warranted on this discipline. Disseminate the findings through conferences, seminars, publications in professional, national and international journals and world wide website. So it is important to conduct plenty of research in India on this intervention in various aspects.

RECOMMENDATIONS

- A similar study can be conducted by increasing the sample size.
- The study can be conducted in various settings.
- A comparative study can be conducted between primi gravida and multi gravida women.
- A study can be done by providing circular hip massage instead of sacral massage to reduce labour pain perception.
- A study can be done by comparing other nonpharmacological methods to reduce labour pain.

LIMITATIONS

The investigator had few problems during the time of study period. The samples were selected by non random method which limits the generability.

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APPENDICES

APPENDIX - A

PART – I

DEMOGRAPHIC VARIABLES

1. **Age**
   (a) 18-20 years
   (b) 21-25 years
   (c) 26-30 years
   (d) 31-35 years

2. **Education**
   (a) No formal Education
   (b) Primary Education
   (c) Secondary Education
   (d) Graduate

3. **Occupation**
   (a) House Wife
   (b) Coolie
   (c) Private Employee
   (d) Government Employee

4. **Monthly Income**
   (a) Below Rs. 2000
   (b) Rs. 2001 – 3000
   (c) Rs. 3001 – 4000
   (d) Above Rs. 4000

5. **Type of Family**
   (a) Nuclear Family
   (b) Joint Family

6. **Nature of Labour**

(a) Spontaneous

(b) Induced

7. **Practice during Pregnancy regularly**

(a) Walking

(b) Antenatal exercise

(c) House hold job

(d) None

8. **Presence of family member in labour**

(a) Mother

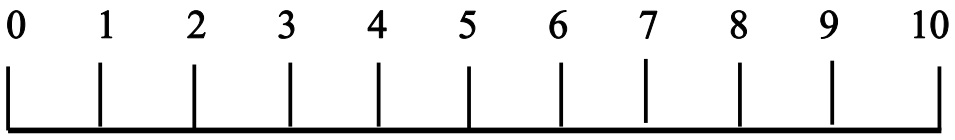
(b) Husband

(c) Relative

(d) Mother-in-law.

PART – II

0-10 NUMERIC PAIN INTENSITY SCALE



Purpose: The scale is used to measure the intensity of pain.

Instruction to the primi gravid women.

Pain assessment with the 0-10 numeric pain intensity scale.

1. I would like you to rate your labour pain on a scale from zero to ten.
2. Zero means you have no pain.
3. Ten means the worst possible pain.
4. What number would you give to your pain?
5. Point the Number that represents your pain?

Author: Registered Nurses Association of Ontario, 2002.

PART III

Paced breathing for labour pain

1. Explain the procedure to the women.
2. Make the mother to sit comfortably.
3. Take a deep breath at the beginning of contraction.
4. Ask the women to inhale slowly through her nose and exhale through pursed lips.
5. While breathing ask the women to concentrate on visual point.
6. Ask her to do the same throughout the contraction.
7. At the end of contraction breath out slowly and relax completely.
8. Ask her to continue this breathing exercise for each contraction.

Sacral massage for labour pain

1. Explain Procedure to the women.
2. Provide Privacy.
3. Make the women to lie down in a left lateral position.
4. Put the heel of the hand over her sacrum and the other hand on the top.
5. Make firm, smooth, rhythmic strokes in sacral region.
6. Then outward movement of the hands from the sacroiliac joints to the wings of the ileum.
7. It has to be continue throughout the contraction.
8. Make the women to relax and comfort.

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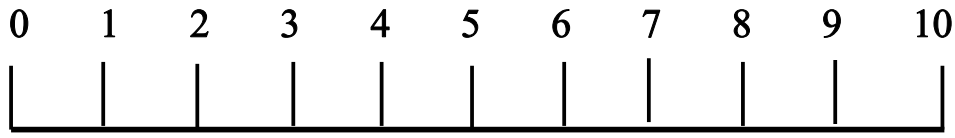

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APPENDIX-B

Letter Seeking consent of the subjects for the participation in the research study

I am voluntarily willing to participate in the study conducted by Ms. S. Meena Kumari, on "A Study to compare the effectiveness of paced breathing versus sacral massage on labour pain perception among primigravid women during latent phase of labour in Jegnath Hospital at Dindugal". I will also explained that the information provided would be kept in confidential and used only for above mentioned study purpose.

Signature of the Investigator

Signature of the Participant

Place :

Place :

Date :

Date :

JEGANATH HOSPITAL

10, New Agraharam, Palani Road, Dindigul. Tel : 0451 - 2432757

Date : 13/05/2011

To

Madha College of Nursing
Kundrathur
Chennai – 600 069.

Madam,

Sub: MCON – Permission to carry out project Regarding,

Your reference letter dated 04.05.2011.

With reference to the letter cited above, you are permitted to have the Project during their course of study as a partial fulfillment of M.Sc., Nursing Programme **Ms. S. Meenakumari,** 2nd Year M.Sc., (N) of your "Madha College of Nursing", Kundrathur, Chennai – 600 069, in our hospital during the period of one month. (01.06.2011 to 30.06.2011).

Thanking you,

Yours Cordially,

Dr. S.M. Amirthagadeswar, M.D.,
Managing Director.
JEGANATH HOSPITAL,
DINDIGUL-624 001.

JEGANATH HOSPITAL

10, New Agraharam, Palani Road, Dindigul. Tel : 0451 - 2432757

Date : 30/06/2011.

To

The Principal
Madha College of Nursing
Kundrathur
Chennai – 600 069.

Sub: Completed project work – relieving from Jeganath Hosptial – Reg.

Ref: 125/JNH/Dindugal/dated : 04.05.2011.

Madam,

Hereby I am gladly informing that **Mrs. S. Meenakumari,** 2nd Year M.Sc., (N) student of Madha College of Nursing, Kundrathur, Chennai, have successfully completed her project work at Jeganath Hospital, Dindugal, for the Period of 30 days from 01.06.2011 to 30.06.2011. She is relieving from our Hospital on 30.06.2011 afternoon and advised to report back to her head of Institution.

Managing Director

S. M. Amirthagadeswar

Dr. S.M. Amirthagadeswar, M.D.,
Managing Director.
JEGANATH HOSPITAL,
DINDIGUL-624 001.

Date : 30.06.2011

Place : Dindugal.

APPENDIX – B

LIST OF EXPERTS FOR CONTENT VALIDITY

1. **Dr. AMIRTHAGADESWAR, M.D.,**
   Managing Director,
   Jeganath Hospital,
   Dindugal,
   Tamil Nadu.

2. **Dr. SHALINI, M.D., D.G.O.,**
   Obstetrician and gynecologist,
   Madha Medical College and Hospital,
   Chennai.

3. **Prof. KALYANI, M.SC.(N).,**
   Professor
   Head of the department of obstetric and gynecology,
   Chettinad college of nursing
   Kelambakkam
   Chennai.

4. **Dr. J.SAROJA, M.B.B.S., D.G.O., F.C.G.P.,**
   Obstetrician and gynecologist,
   Jeganath Hospital,
   Dindugal,
   Tamil Nadu.

CERTIFICATION FOR CONTENT VALIDITY

This is to certify that the content and the tool to the statement of the problem **"A study to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during first stage of labour among primi gravida mothers in Elango Nagar Health post at Chennai"** prepared by **Ms. Meena Kumari. S, M.Sc(N) I year** student currently pursuing her M.Sc (N) degree programme for the partial fulfillment of her dissertation at **Madha College of Nursing, Kunrathur, Chennai – 69** is found to be valid to the best of my knowledge.

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APPENDIX – E

CERTIFICATE FOR ENGLISH EDITING

To whom so ever it may concern

This is to certify that the dissertation, "A Study to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women in Jeganath Hospital at Dindugal" 2011-2012, prepared by Mrs. S. Meena Kumari, II year M.Sc nursing student of Madha College Of Nursing, Kundrathur, Chennai is edited for English language appropriateness.

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CERTIFICATE FOR TAMIL EDITING

To whom so ever it may concern

This is to certify that the dissertation, "A Study to compare the effectiveness of paced breathing versus sacral massage on labour pain perception during latent phase of labour among primi gravid women in Jeganath Hospital at Dindugal" 2011-2012, prepared by Mrs. S. Meena Kumari, II year M.Sc nursing student of Madha College Of Nursing, Kundrathur, Chennai is edited for Tamil language appropriateness.

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